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# THE BUILDING OF SATELLITE TOWNS

WELWYN GARDEN CITY: HOWARDSGATE, IN THE COMMERCIAL AREA

# THE BUILDING OF SATELLITE TOWNS

A CONTRIBUTION TO THE STUDY
OF TOWN DEVELOPMENT AND
REGIONAL PLANNING

BY
C. B. PURDOM

*FULLY ILLUSTRATED*

PRINTED IN THE FIRST GARDEN
CITY AT THE TEMPLE PRESS
& PUBLISHED IN LONDON BY
J. M. DENT & SONS LTD.
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To the Memory of

SIR RALPH NEVILLE

ANEURIN WILLIAMS

and

H. D. PEARSALL

Any mechanical tendency to diffuse population will be furthered by the instincts and desires of the population itself. It is true that the poor now are apt to prefer the excitement of the town to the dullness of the country. But the country has been made dull by the growth of great towns, and the concentration of all life in them. If this concentration ceased, if there were more numerous and smaller towns, far from provincial stagnation, the country would lose its dullness, and huge cities would lose their attraction. Already there is a conscious effort towards diffusion, helped, even now, by the most modern improvements in transport, and already the size of our great towns is becoming a serious material disadvantage to their inhabitants. The amount of time and energy and money wasted every day in getting about London, and into it and out of it, is so enormous that if there is much further increase in that waste, it will go far to nullify even the present advantages of concentration. Those advantages are all material. Our spiritual instincts revolt against them, and their revolt grows stronger every day. Every further advance in transport will help that revolt; and perhaps some of us will live to see the decline of London brought about by a great ring of subsidiary towns each getting its first impulse of life from the metropolis, and each growing daily into greater independence and keener competition with it. Thus it may be that all the conditions of our life will be swiftly altered again, and for the better. But the improvement will be great only if we have learned the lesson of the past, and refuse to be taken by surprise yet again. Little towns can be as squalid as big ones, as anyone can see in Yorkshire and Lancashire and the Black Country. A mere diffusion of London slums will not help us. We must be ready with our ideal of the small town of the future, and we must have the determination to make that ideal come true. For civilisation consists not in the perfecting of any kind of machinery, but in the use of machinery, as of everything else, for the realisation of ideals. Without ideals there can be no civilisation, and it is owing to the lack of them that machinery has so often produced only barbarism in the past.—*The Times* (September 17, 1908).

# PREFACE

In connection with the housing problem much thought is being given to new methods of construction, but very little to new methods of distribution of houses.

This work is a discussion of the idea of building new towns in the form of satellite towns around the large cities, as an alternative to the continuous suburban growth of the cities over ever wider areas. The subject has become of great practical importance, and is beginning to engage the attention of town-planners and municipal and state authorities throughout the world. A large part of the book is occupied by an account of the organisation, planning and finance of the garden cities of Letchworth and Welwyn, the two satellite towns of London that are now being built.

I should make it clear that with the exception of actual quotations from official or other documents specifically noted in the text, the two garden city companies are not responsible for any figures or statements of fact respecting their particular schemes. Every care has been taken, however, to ensure accuracy.

The Index has been made as full as possible, and the reader is asked to consult the references therein, as the arrangement of the book has made it necessary to refer to some subjects in more than one chapter.

I am greatly indebted to those who have helped me to prepare the matter for the book, including Mr. H. Craske, Mr. George Brown, Dr. Norman Macfadyen, Mr. Barry Parker, Mr. W. H. Gaunt, Mr. Louis de Soissons, Mr. F. J. Osborn, Dr. Hudig, Herr Adolf Otto, M. August Bruggeman, among many others, all of whom I thank. I owe thanks to Professor Patrick Abercrombie for allowing me to re-draw one

of his diagrams; to Mr. W. L. Hare for the loan of several blocks; to my wife and Mr. C. W. Care for much valuable assistance with the proofs, and to the latter for many useful suggestions; and particularly to Mr. W. G. Taylor, who, in the inception of the book, helped me as he has done so many times before, and to Sir Theodore Chambers, to whose advice and encouragement I owe more than I can say.

C. B. PURDOM.

*March* 1, 1925.

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# PART I

## INTRODUCTION

# THE BUILDING OF SATELLITE TOWNS

## INTRODUCTION

## CHAPTER I

### THE EXPANSION OF TOWNS AND CITIES

This great good that we enjoy . . . that august thing the Romans adored above all their gods, the town, "Urbs." . . .—ANATOLE FRANCE, *The Opinions of Jerome Coignard.*

§ 1

IN the ancient civilisation of the East, in Greece, in the Roman Empire, and in the Middle Ages, right down indeed to the recent industrial age, there was some science of city-building known and practised everywhere. Sites were chosen and towns were laid out to satisfy the economic, military, political or religious requirements of those who made them, and that a town should fulfil certain defined functions and be of a size and form that made for good government were accepted principles. The study of town-plans from the earliest times provides ample evidence of this; in the planning and construction of the walls, the positions of the gates, the street arrangements, the disposition of gardens and public buildings, theatres and so forth, there is conspicuous indication of town-design. Many of the old cities, no doubt, grew up by reason of some accident, and carelessness and indifference played some part in their growth. But the old market towns of England, with their large deliberately planned market-places and handsome guild-halls, such towns as Chipping Campden, Peterborough, Cambridge, Boston, and scores more, as well as the royal city of Winchelsea and the ecclesiastical city of Salisbury, show purpose and art in their structure. The sense of order and function was still active in the seventeenth- and eighteenth-century towns of New England, for instance, and indeed many of the old towns that survive throughout the world show that they were not entirely natural growths, for they possess, in spite of the changes that have affected them, a charm that everyone appreciates, witness of the taste and skill of those who built them.

The towns that are built to-day and the towns built throughout the

last century are different. They give little or no pleasure to anyone. If we reflect upon the fact that the great mass of building we possess is the product of the last hundred years (no more) we shall find melancholy proof of the total loss in that period of the art of city-building. During that time the world gained, it is true, a sanitary science that has almost reached perfection; but that science has not given us, and is not now giving us, towns of whose beauty and fitness we can be proud. There is nothing becoming more generally apparent than that our towns are ugly and wasteful, in urgent need of drastic reconstruction, so that the inhabitants of every one of them would benefit beyond all calculation could they be pulled down and rebuilt. Evidently something more than sanitary science is necessary to make towns not merely fit to live in but a credit to their builders and objects of delight to their inhabitants. What that something is may, perhaps, be discovered if we enquire into the end for which towns exist. If men could live solitary, each getting for himself by his own efforts what he required for the satisfaction of his physical and spiritual needs, towns would not be wanted at all, their populations could be dispersed and they could be razed to the ground. But men cannot live alone, and the older the world becomes, the more population increases, the more do men come to depend upon each other. Towns exist to give men the benefits of society. They are above all other things the products of civilisation, as well as the very ground and origin of civilisation itself, so that without towns civilisation perishes, and without good towns civilisation cannot reach its fullest developments. The function of towns is to enable men to attain and perfect ends which they cannot otherwise reach, among which are culture, trade, and good government.

The writer does not propose to prepare a treatise on the theory of towns; but it is as well, in setting out to discuss the subject that is before us, to have the nature of that subject clearly in our minds. For it is only when we understand what the nature of a particular thing is and the function it is intended to fulfil that we can usefully consider its improvement. It is obvious when we examine our towns and observe the manner of their growth that adaptation to function is the very last thing they can be said to have achieved. They are mere improvisations, built without the observance of any guiding principles and possessing no definite social ends. They are, that is to say, the natural products of capricious individual activities.

The increasing dependence of men upon social organisations of

various kinds makes the need for good towns the more pressing. The complexity of civilisation and the steady raising of the general level of education and intelligence throw a more and more insistent demand upon towns. As matters stand to-day, the towns cannot respond to the demand. And the reason undoubtedly is that they have not been designed to do so; their form, size, position and structure have never been thought out or subjected to intelligent control. Even their system of government, which is so recent as to be no older than the age of men still young, is inadequate.

## §2

There is no subject to which attention can more profitably be directed than the means by which the increasing populations of the towns, and particularly of the great urban centres, can best be provided for; for that is the predominant problem of city life to-day. The housing problem with which we are confronted is precisely that problem, and the remedy for traffic confusion and the disorder of all our over-populated industrial centres is bound up with it. Much devotion and money has been expended upon such questions as the clearance of slums, the reduction of crime, the improvement of education, health, transport, and so forth; but the study of the city itself as an organism, of its relation to the country-side and to surrounding cities, is very greatly neglected. The question of the kind of city that can best serve the needs of present-day life and industry is unasked, yet it is upon the answer to that question that efforts of reform should depend. The immediate physical problems of the great city are the distribution of population within its various parts, and the progressive provision of suitable accommodation for its surplus population in time to avoid congestion. At present those problems are studied in relation to the reconstruction of central overcrowded slum areas, the town-planning of the outskirts, and the choosing of housing sites within or without the city boundaries. But a much larger view is required.

Towns are growing rapidly and new districts are continually being built upon. All around London, for instance, within a radius of twenty miles, residential estates that can no longer be maintained by their owners because of the new economic conditions are being disposed of and laid out for building purposes; the weekly records of property sales are full of such transactions. On the south coast of England the towns

are quickly growing into one another by the operations of builders and land speculators. There is at present no recognised alternative to this method of development, which leaves the practical business of the extension of cities largely in the hands of those engaged in the manipulation of real estate with the sole object of profit. Yet an alternative is urgently needed. It is true that in England, and in practically all European countries, the activities of individual builders are now being supplemented by the local authorities, who are themselves engaging more and more in land and housing development; yet this but emphasises the need of establishing a conception of the city as a whole in which the form and design that it should take are brought into conformity with an ideal view of what the city should be, and with the practical functions that the modern city is destined to fulfil.

§3

That this is not an academic question but a severely practical one can be seen if we consider the dimensions of the present housing problem in England. During the next fifteen years it is officially estimated that two and a half million working-class houses should be built in this country, if the reasonable housing needs of the population are to be adequately met. If those houses be reckoned at an average of twelve to the acre, a total area of over 200,000 acres will be required for them. If to that figure is added a further fifty per cent. (an under-estimate) for middle-class houses, shops, factories, public buildings, allotments, and open spaces, a total area of more than 300,000 acres is arrived at, housing a total ultimate population of from twelve to fourteen million persons. The problem surely is so to distribute those buildings and that population that the maximum advantage may be secured from the expenditure involved. Few people have, however, conceived the problem in that light. Yet so gigantic an undertaking if it is to be worthily carried out should be looked at as an opportunity for making cities in which science and art are employed to give the maximum utility as well as dignity, order and good taste to building. It is not fantastic to suggest that it gives our generation the chance to develop a real science of modern town construction.

The large amount of public expenditure upon housing to which the State and local authorities are committed in the present year and for a generation to come, and the large sums of private capital which are

continually being invested in houses, factories, shops and other buildings, make it a matter of the greatest urgency to get recognised some generally accepted principle of distribution upon which this building should be arranged. The natural growth of cities, from which all our present troubles in city-planning arise, was a normal feature of the nineteenth century, and the tendency at present is to continue it by schemes of suburban development along the lines of new highways and new railways, constructed, it should be noted, to a large extent by State subsidies or guarantees and concessions.

Worse still, this natural growth is even to be regularised and established as a system by means of town-planning schemes. This almost incredible state of things is possible because the constant spread of the cities is accepted as inevitable, and the illusion is sedulously cultivated, even by the advocates of town-planning, that by subjecting that growth to regulation its evils can be reduced if not altogether removed. But the maintenance of that illusion admits the modern world to be devoid of ideas and unable to control its affairs. The fatalism with which the average man accepts the present condition of things in connection with town growth is amazing. He takes it for granted that it must continue, and the experts are too timid to enlighten him. Vested interests, the inertia of the public, lack of courage and resource in administrators and the absence of clearly perceived alternatives to the present system, no doubt account for the current pessimism. Yet there is nothing in the existing process of town extension that gives it inherent force or that justifies it on any economic, social or political grounds; that it persists at all is due rather to absence of will and purpose than to any other cause. In this connection some words of Mr. and Mrs. J. L. Hammond in the introduction to one of their books come to mind. "The more closely any period of history is studied," they say, "the more does it appear that the mistakes and troubles of an age are due to a false spirit, an unhappy fashion in thought or emotion, a tendency in the human mind to be overwhelmed by the phenomena of the time, and to accept those phenomena as the guide to conduct and judgment, instead of checking and criticising them by a reasoned standard of its own. Men come to think that it is their business to explain, rather than to control, the forces of the hour." [1] That is very true at present of the general attitude towards the growth of towns, and perhaps accounts for the deplorable state of city-building.

[1] *The Town Labourer*, p. vii.

§4

It is worth while remembering that cities are not static, their populations shift and distinctly alter in character in the course of years. This fact is of significance in relation to any attempt to change the method of city expansion, for it suggests that the actual movement of population that already exists might by intelligent direction be used to transform the old cities and bring into being the new cities that we want. During the last century the power of the cities as an attractive force was the outstanding feature of social development, and though that power is by no means diminishing the present century has shown a marked tendency for populations to leave the central areas and to remove to the outer areas and distant suburbs. The dispersal of population has been for residence mainly, the bulk of those who have removed from the cities still spend their working lives within them; but there has also existed a tendency for generations past for industry to get away from the central parts of cities to the outskirts and even into the open country. But that tendency has not resulted in a general movement owing to the obstacles that are often encountered. Striking evidence of the continued concentration of population in the great cities is shown in the first of the published studies for the regional plan of New York. This report says: "A comparison of the relative density of population per square mile in the rural areas, as indicated by the census enumerations made in 1850 and 1920, discloses the somewhat startling fact that in a number of towns from thirty to fifty miles distant from New York City Hall the present population per square mile is about half what it was in 1850, and in some cases even less."[1] Another aspect of the question may be illustrated by London, where the population of the administrative county increased in the thirty years from 1891 to 1921 by 6 per cent. while the outer ring—that is, the area within the Metropolitan Police District—increased in the same period by 110 per cent. In the last ten years the administrative county actually declined by 8 per 1000 while the outer ring only increased by 9.7 per cent., which suggests that London's real increase is to be measured over a much wider area than that of Greater London itself. Without the use of any more statistics, these figures are sufficient to show the existence of a natural movement of population which might well be brought to the service of the new town-planning.

[1] *Maps and Diagrams.* Prepared by the Physical Survey Committee on the Regional Plan of New York and its Environs, 1923.

## §5

In this country as in countries abroad, we are now at a parting of the ways in town-building. We can either allow the old system, or lack of system, to continue, gradually bringing it under some measure of control by means of town-planning schemes, adapting it as best we can to our vital national needs; or we can make a radical change of method, employing our resources of science and technical skill to make new towns to meet our developing economic requirements and to give greater satisfaction to our social sense. That means making our present task of town extension the starting-point for a new manner of building. The establishment of new cities to accommodate the overflowing populations of the existing cities is the method of town extension proposed in this book. The writer desires to urge that by the systematic planning and development of towns on new sites in the neighbourhood of the great cities an alternative is provided to the casual development of building estates on their outskirts. These new towns are to be regarded not as suburbs, but as satellite towns, distinct communities with their own corporate life. In the building of such towns private and public enterprise may combine to make the city a civilising agency worthy of our present-day knowledge and powers. We have arrived at a point when persistent experiment, effort and trial are necessary on a large scale if we are to get towns that really meet the needs of those who live in them, and the satellite town at least provides a means by which this effort may be made.

In the course of this book an endeavour will be made to show that the building of such towns is practicable, and the means by which it can be done will be discussed. The argument will be illustrated by a full description of the two such towns that are already under construction. But before we proceed further it is desirable to stress the importance of seeing the city in its setting and in relation to its surroundings; for that purpose a regional point of view is necessary, from which the city forms part of a larger whole. And that regional point of view should dominate our conception of city extension.

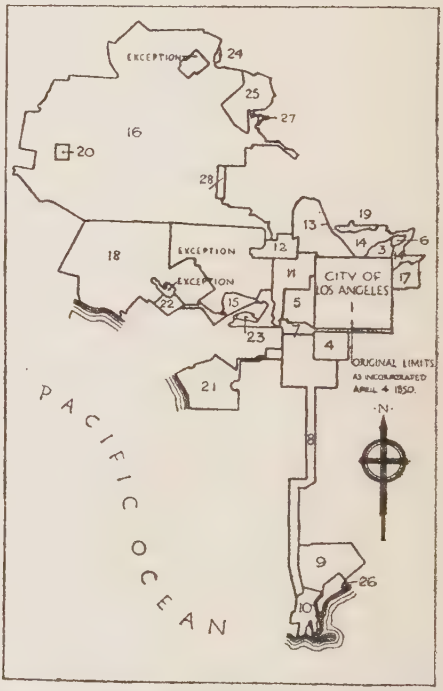
# CHAPTER II

## THE REGIONAL POINT OF VIEW

It is that of yet more comprehensive studies; not only of countries and of towns separately . . . nor even of their past in relation to their present, and conversely: it is the study of town in country, and of country in town, and these through past and present alike. It is the appeal of regional unities, yet also of these as regional diversities. . . . It is time then to be ending the ancient feud, the artificial separation of town and country. . . .—PATRICK GEDDES, *Cities in Evolution*.

§ 1

WE are brought to the need for regional planning by consideration of the problems of the great city, and in particular the problem of its expansion. The great city must grow, because its population is ever on the increase, and in the course of its growth it must spread over some part of the region surrounding it.[1] Thus cities in the past have constantly extended their boundaries, absorbing suburbs and villages, and even other towns as well as tracts of the countryside. Not only does the great city need more space, but it requires outlets for drainage and areas for water supply, sometimes at great distances from its centre. Los Angeles in California is an instance of an inland city that has made itself into a port by securing extensions of its area that give it three separate means of access to the Pacific coast. This city provides an example of sensational growth. The population increased 212 per cent. in the decade from 1900 to 1910, and a large portion of this increase was due to the absorption of adjoining areas containing populous centres. The attached table shows the additions; the total area is now 232,606 acres, or 363.4




PLAN SHOWING THE SUCCESSIVE ADDITIONS TO LOS ANGELES TO JUNE 1919

The date and area of each addition are shown in the table on p. 11. The plan is redrawn from Mr. Nelson P. Lewis's book, *The Planning of the Modern City*.

[1] "In Birmingham you have what I call the old city, which is more or less a big industrial city with a resident population. Outside that you have certain residential suburbs which I could name. I will not

square miles. The largest addition to the city, in 1915, was made so "that the city might use its surplus water supply for irrigation and bring under cultivation its extensive rural area, which was greater than all the rest of the city put together." [1]

TABLE SHOWING THE AREAS AND THE DATES OF THE SEVERAL ADDITIONS TO THE CITY OF LOS ANGELES TO 17TH JUNE, 1919. THE NUMBERS OF THE SUCCESSIVE ADDITIONS ARE THOSE INDICATED IN THE PLAN.

| No. | Name | Date | Acres | No. | Name | Date | Acres |
|---|---|---|---|---|---|---|---|
| 1 | Original City | 1850 | 17,924 | 15 | Palms | 1915 | 4,672 |
| 2 | Southern Extension | 1859 | 766 | 16 | San Fernando | 1915 | 108,732 |
| 3 | Highland Park | 1895 | 904 | 17 | Bairdstown | 1915 | 2,176 |
| 4 | Southern Addition } | 1896 | 6,517 | 18 | Westgate | 1916 | 31,149 |
| 5 | Western Addition } | | | 19 | Occidental | 1916 | 666 |
| 6 | Garvanza | 1899 | 440 | 20 | Owensmouth | 1917 | 495 |
| 7 | University | 1899 | 1,134 | 21 | West Coast | 1917 | 7,942 |
| 8 | Shoestring | 1906 | 11,931 | 22 | Sawtelle | 1918 | 1,162 |
| 9 | Wilmington | 1909 | 6,358 | 23 | West Adams | 1918 | 380 |
| 10 | San Pedro | 1909 | 2,948 | 24 | Griffith Ranch | 1918 | 149 |
| 11 | Colegrove | 1909 | 5,579 | 25 | Hansen Heights | 1918 | 5,313 |
| 12 | Hollywood | 1910 | 2,848 | 26 | Ostend | 1918 | 1 |
| 13 | E. Hollywood | 1910 | 7,112 | 27 | Orange Grove | 1918 | 146 |
| 14 | Arroyo Seco | 1912 | 4,416 | 28 | W. Lankershim | 1919 | 746 |

The process of growth of some cities in Great Britain is interesting. Birmingham was incorporated in 1838, it then covered an area of 8470 acres and had a population of 150,000; in 1891 the boundaries were extended by the inclusion of Balsall Heath, Harborne, Saltley and Little Bromwich, increasing the area to 12,639 acres and the population to 429,906. Quinton was added in 1909, making the area 13,472 acres and the population 563,629. The largest extension took place in 1911, when 30,065 acres were added and a population of 314,369, so that the total area of the city is now 43,537 acres and the population 936,079. Halifax and Swansea are other examples of large extensions of city areas and populations. In November 1920 the corporation of Leeds applied for an extension of its city boundaries which would have added 32,820 acres to the city and increased the population by 100,635. The city of Bradford at the same time attempted to extend its area by 30,453 acres and a population of 371,509. The effect would have been to make the boundaries of

name them, but you understand, there is a ring of suburbs round the old city. Beyond that ring of suburbs there has grown up another ring of industrial enterprises, and beyond that again you get another residential territory. As the town has grown you have had that extraordinary development, industrial at the centre, then a ring of suburbs, then another industrial ring, and finally another suburban ring."—SIR DAVID BROOKS, G.B.E., ex-Lord Mayor of Birmingham, before the Royal Commission on Local Government, *Minutes of Evidence*, Part iv. p. 877.

[1] *The Planning of the Modern City*, by Nelson P. Lewis, p. 304. The table is taken from the same book.

the cities coterminous. These extensions were successfully opposed and a Royal Commission on Local Government was afterwards appointed to consider the question of city boundaries.[1] Greater London, which has an area of nearly 700 square miles, is very largely a mass of indistinguishable towns; in the district known as the Potteries in Staffordshire, in the Manchester district of Lancashire, in Yorkshire, Durham, on the Clyde and elsewhere, towns have grown into one another, though their local governments remain distinct. The amalgamation of the towns of Devonport, Plymouth and Stonehouse is a classic instance of towns that grew solidly into one another and ultimately were forced to become one city. In the south of England at the present time we see development which threatens to make almost a continuous wall of building right along the coast from Dover to Southampton.

It is now coming to be seen that the relation of the city to the region surrounding it, and the place of the city in the region, are subjects that must receive serious attention; for the whole series of social, economic and political problems that arise in connection with the prevailing method of city expansion involves considerations that are of regional and even national importance.

§2

The regional survey is a method of bringing under review the geographical, economic and social conditions and potentialities of a large area. Such a survey has a scientific value of its own and can be used for a variety of purposes. It has, for example, a distinct value in education, enabling knowledge of immediate surroundings to be a starting-point for knowledge of the world at large. In particular it may be employed to determine (bearing in mind the ideal functions of the city) in what form and to what extent the growth of cities may be provided for. The first important surveys were probably those undertaken by American states and cities with a view to providing adequate park areas and reservations of natural features for public purposes. The metropolitan district of the city of Boston was among the bodies that originated this kind of survey, which was precursory of town and

[1] The terms of reference of the Royal Commission are:

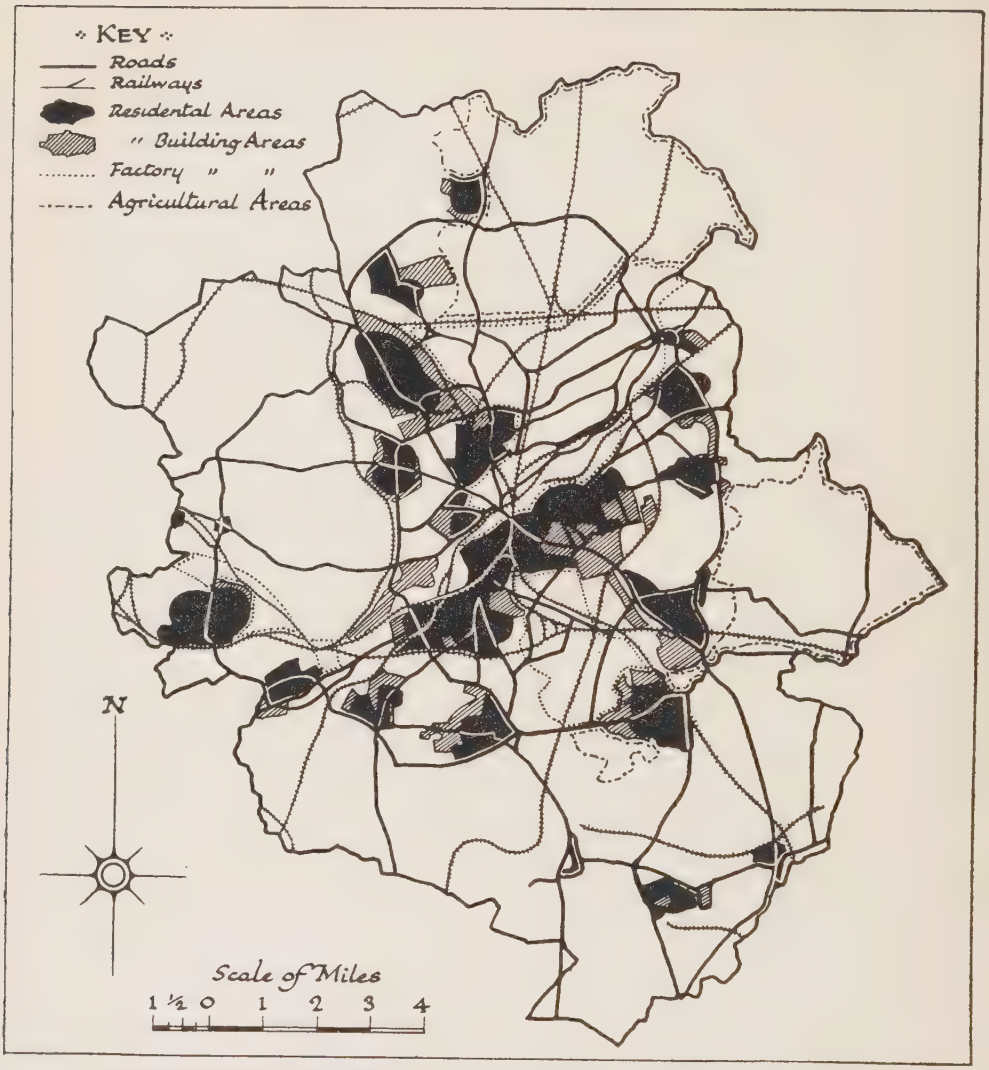
"To enquire as to the existing law and procedure relating to the extensions of County Boroughs and the creation of new County Boroughs in England and Wales, and the effect of such extensions or creations on the administration of the Councils of Counties and of Non-county Boroughs, Urban Districts and Rural Districts; to investigate the relations between these several Local Authorities; and generally to make recommendations as to their constitution, areas and functions."

regional planning on a wide scale throughout the state of Massachusetts. To indicate the scope and utility of the regional survey a short account of what has already been accomplished or is being done in England will be useful. The Regional Association[1] has been a pioneer body in popularising the idea of the survey, and Professor Patrick Geddes is one of its chief prophets.[2] Surveys of localities have been carried out during a number of years past in various parts of the country for archæological, historical and other purposes. During the war the opportunity was taken for the first time to undertake official surveys on a large scale, and a number of unemployed architects and surveyors was set to work on surveys in London, Manchester, South-West Yorkshire and other districts. These surveys were not, however, completed.

The first important survey of an extensive area was that initiated in 1920 by the Minister of Health (Dr. Addison), who appointed a committee to enquire into and report upon the special circumstances affecting the distribution and location of the houses to be erected with State aid under the Housing Acts of 1919 in the region of South Wales. This committee carried out a survey covering an area of over 1000 square miles more or less associated with coal-mining and other industrial activities, some parts of which are densely populated. A great volume of evidence was taken, and the committee's report showed the necessity for regional control of a large area in process of urbanisation. Among its recommendations was the establishment of a Regional Town-Planning Board to supervise the work of town-planning in the region and to prepare a regional development plan. The committee recommended that the houses to be built should be concentrated in a few areas, and that at least one dormitory town should be built. A definite site was suggested for such a town in an agricultural area, and it was proposed that the town should provide for a population of about 30,000, that it should be almost purely residential in character, that the inhabitants should belong to different industries, and that the size of the town should be limited by a permanent agricultural belt within its own boundaries. The committee deemed it important that the new town should have a civic centre of some dignity, so that the privileges and responsibilities of citizenship should be made evident. The site suggested was a good railway centre, readily accessible by train from districts where considerable industrial development was to be anticipated.[3]

[1] Lepay House, 65 Belgrave Road, London, S.W.1.
[2] *Cities in Evolution* (London, 1914), and other works.
[3] *Report of South Wales Regional Survey Committee.* H.M. Stationery Office, 1921.

Early in 1920 the first Joint Town-Planning Committee was formed at Doncaster. That committee was representative of the local authorities




DONCASTER REGIONAL PLANNING SCHEME: SUGGESTED LINES OF FUTURE GROWTH

in the area of the coalfield surrounding Doncaster within a radius of ten miles. It instructed Professor Patrick Abercrombie to prepare a report and outline a scheme,[1] the funds being provided by contributions

[1] *The Doncaster Regional Planning Scheme*, by Patrick Abercrombie and T. H. Johnson. London, 1922.

from the bodies represented on the committee, according to the proportion of the rateable value of each to the total rateable value of the whole area. The report was adopted by the joint committee and confirmed by the constituent councils. It is an excellent report and worth careful study. Among the recommendations is the development of new communities in the area with populations of about 15,000 to 20,000. Doncaster itself has a population approaching 60,000, and the writers of the report consider that the size they propose for the new communities would be adequate "to obtain the benefits of communal existence on a local scale, while the total population of the region would permit Doncaster to afford first-rate theatres, a concert hall and the other self-supporting amenities of a great city." They further say, "It is desirable to make it clear that all of these types of new communities are not to be treated as isolated suburbs of Doncaster: fragments, as it were, of her suburban growth that have got separated from the parent mass, as moons have been formed from a planet. On the contrary, they are complete entities whose existence is . . . owing to one or other of the fundamental causes of urban birth." In the same year the Manchester and District Joint Town-Planning Advisory Committee was formed for a region including the watershed of the Mersey and the Irwell, surrounding Manchester. Each constituent council agreed to contribute the produce of one-tenth of a penny rate for three years to meet the costs of an outline plan for the region, to assist some of the smaller authorities in the preparation of their town-planning schemes, and to co-ordinate the town-planning work of all the authorities.[1] Many other joint town-planning committees have since been formed, and the work that is being done by them is likely to have a far-reaching effect.[2] A number of reports is being prepared for these committees, and several have been published.[3]

## §3

Two reports of some interest in connection with our present subject were made by a committee appointed by the Minister of Health (Dr. Addison), in 1920, to advise on the principles to be followed in dealing

[1] *Transactions of the Manchester and District Joint Town-Planning Conference.* Manchester, 1922.

[2] An account of the work of the committees is given in an article on "Regional Town-Planning," by G. L. Pepler, in the *Journal of the Town-Planning Institute,* February 1924.

[3] The West Middlesex Joint Town-Planning Committee. Preliminary Report by Thomas Adams and Longstreth Thompson. London, 1922; *Deeside Regional Planning Scheme.* London, 1923; *Sheffield Civic Survey and Development Plan,* by Patrick Abercrombie. London, 1924.

with unhealthy areas.[1] The committee, of which Mr. Neville Chamberlain was chairman, investigated conditions in London, Birmingham, Leeds, Liverpool and Cardiff, as well as in a number of towns and villages in South Wales. The study of the problem of slums and the reconstruction of slum areas in these cities led the committee to the conclusion that the problem could be dealt with satisfactorily only by the simultaneous consideration of housing, transport, and the ultimate distribution of dwelling-houses, commercial and industrial premises, etc., over a wide area. It was stated that in London alone over half a million people lived under unsatisfactory conditions; in Birmingham there were 40,000 back-to-back houses, and in Leeds 72,000, of which nearly half were crammed together at the rate of 70 to 80 per acre. The committee recommended that slum reconstruction schemes should be carried out in conformity with "a plan of the whole town concerned together with its surrounding area." [2] That is to say, a regional point of view should be taken. As a step towards dealing with the problem in London the preparation of "a plan for the reconstruction of London and the surrounding country, including the Home Counties," [3] was recommended. In its interim report the committee said:

> In considering what has already been done in the way of slum clearance, your committee have been impressed by the fact that all attempts to rehouse the existing population appear to have been completely disconnected from one another or from any conspectus of the problems as a whole. The inter-relation of housing, transport and industry has not been taken into account; indeed, a local authority desiring to erect on the outskirts of London a number of houses sufficient to accommodate a population equivalent to that displaced by a clearance scheme has been known to select a site without even enquiring how this new population was to be transported to and from those parts of London where it would naturally find occupation. Again, there has been no settled principle to guide local authorities in deciding what proportion of the displaced population should be rehoused on the existing site and what should be removed elsewhere. Nor has there been any uniformity of opinion as to the provision of open spaces for the health and recreation of those who remain.[4]

An interesting point was made by the committee in a recommendation that a local authority should have the power to declare any part of its area "a congested area," and thereafter to prohibit the demolition of houses or the erection of buildings other than dwelling-houses in those areas without its licence.[5] The restriction or prohibition of factory building within congested districts was to be accompanied by the encouragement of the migration of factories to new centres of population. The committee said:

> It would be useless to hope for improvement in the congested areas if these are allowed to

[1] Reports of Unhealthy Areas Committee: Interim Report, 1920; Final Report, 1921.
[2] Final Report, p. 16. [3] Final Report, p. 17. [4] Interim Report, p. 4. [5] Final Report, p. 17.

become still more congested by the further demolition of houses to make way for more profitable buildings, and it would appear necessary to take measures to discourage any increase of labour-employing establishments in such areas. A recommendation with this object will be found among our conclusions.

Many of the factories now located in London might apparently have been placed elsewhere without any disadvantage to themselves, and we are strongly of opinion that . . . there should be encouraged the starting of new industries and the removal of existing factories to garden cities which should be founded in the country where the inhabitants will live close to their work under the best possible conditions. Generally speaking, these communities should not exceed from 30,000 to 50,000 people, and should be surrounded by a belt of agricultural land for the purpose of health and recreation, and for local food production.[1]

The committee's reports are a striking recognition of the need of providing for the systematic planning and development of regions in order to enable towns to deal with their congested populations.

## §4

In many other countries regional planning is being seriously considered.[2] In Northern France there have been several regional schemes and a joint committee of the Department of the Seine and the City of Paris has issued reports on an area including the communes of Le Courneuve, Le Bourget, Dugny and Staines.[3] Reference has already been made to the growth of Los Angeles in California, but even that remarkable extension of area has not prevented regional questions from arising, for "large though the city was, the efficiency of its planning work was largely interfered with through limitations imposed by the existence of arbitrary city boundaries."[4] At the instance of the city authorities, therefore, a meeting of representatives of the municipalities in the county, covering an area of approximately twenty-five miles around the city, was called in 1921, when questions of transportation, land development and sewage disposal were considered, and a series of committees was appointed. Several conferences have since been held, and the matters being dealt with are zoning, highways, parks, sanitation, flood control, water supply, transportation, education, etc. The State of New York created in 1923 a Commission of Housing and Regional Planning in the office of the state architect consisting of eight

[1] Interim Report, p. 3.

[2] See the *Papers* and *Report of Proceedings of the International Town-Planning Conference at Amsterdam*, 1924 (International Federation for Town and Country Planning and Garden Cities, 3 Gray's Inn Place, London, W.C.1). In particular, Dr. G. A. van Poelje's paper, "The Legal Aspect of Regional Planning in Holland," and Ing. P. Bakker Schut's paper, "Das Bedürfnis an Bezirkserweiterungsplänen in den Niederlanden." The periodical bulletins of the Federation should also be consulted.

[3] *L'Urbanisme d'une Région Parisienne* (1924), Mémoire No. 1, Urbanisme; No. 2, Transports.

[4] *Proceedings of the First Regional Planning Conference of Los Angeles County* (1922), p. 4.

members: the state architect, the state commissioner of highways, the industrial commissioner, and five lay members appointed by the state

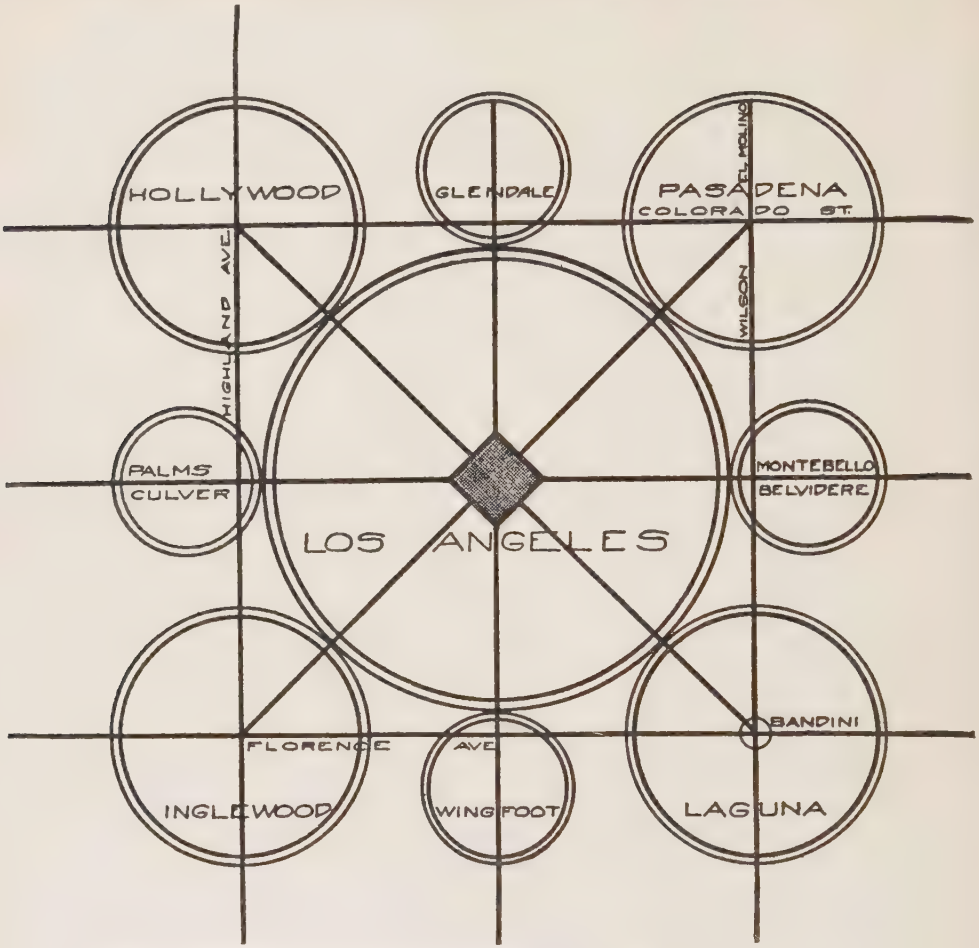



DIAGRAM REPRODUCED FROM THE "PROCEEDINGS OF THE FIRST REGIONAL PLANNING CONFERENCE OF LOS ANGELES COUNTY"

Shows the chief towns and cities existing at a distance of from six to ten miles from Los Angeles. These cities are satellite sub-centres of Los Angeles, "each with its own individual character and identity —which must be encouraged and maintained."

architect. In his message to the Legislature recommending the creation of the commission, the Governor said:

It becomes more and more apparent that housing is related to questions of transportation, industry, road and street planning, the lay-out of lots, the distribution of population and the relation of the cities to the country and the farms. Some of our counties are appointing regional

planning commissions and some of our cities will soon follow, in an attempt to relate their growth to the less-developed rural surroundings.

The Housing Board should, therefore, be asked to consider housing from the broad point of view of regional planning, and for that reason I have suggested that the Highway Commissioner be a member of the board.[1]

The commission is actively at work, and among other things has organised a committee for the regional planning of the Niagara frontier, representing six cities, twenty-two villages and two county governments in the area. It is intended to secure the necessary legislation for the creation of an official body for the appropriation of funds and the employment of technical assistance in the development of a regional plan.[2]

## § 5

Two regional schemes in America and Germany must be mentioned in bringing this chapter to a close. The most important and comprehensive regional survey yet undertaken is that initiated in 1920 by the trustees of the Russell Sage Foundation for the purpose of preparing a plan for New York and its environs. The trustees have formed a committee of six men, known as the Committee on the Plan of New York and its Environs, which is organising studies of an area including practically all land within a radius of forty miles and at some points reaching as much as sixty miles from the centre of the city, covering altogether over 5500 square miles and having a population of nine millions. The committee has established a number of departments to undertake a series of enquiries with a view to recording the basic facts essential to the preparation of a plan. The departments are:

Physical (now re-named Engineering Studies),
Economic and Industrial,
Social and Living Conditions,
Legal.

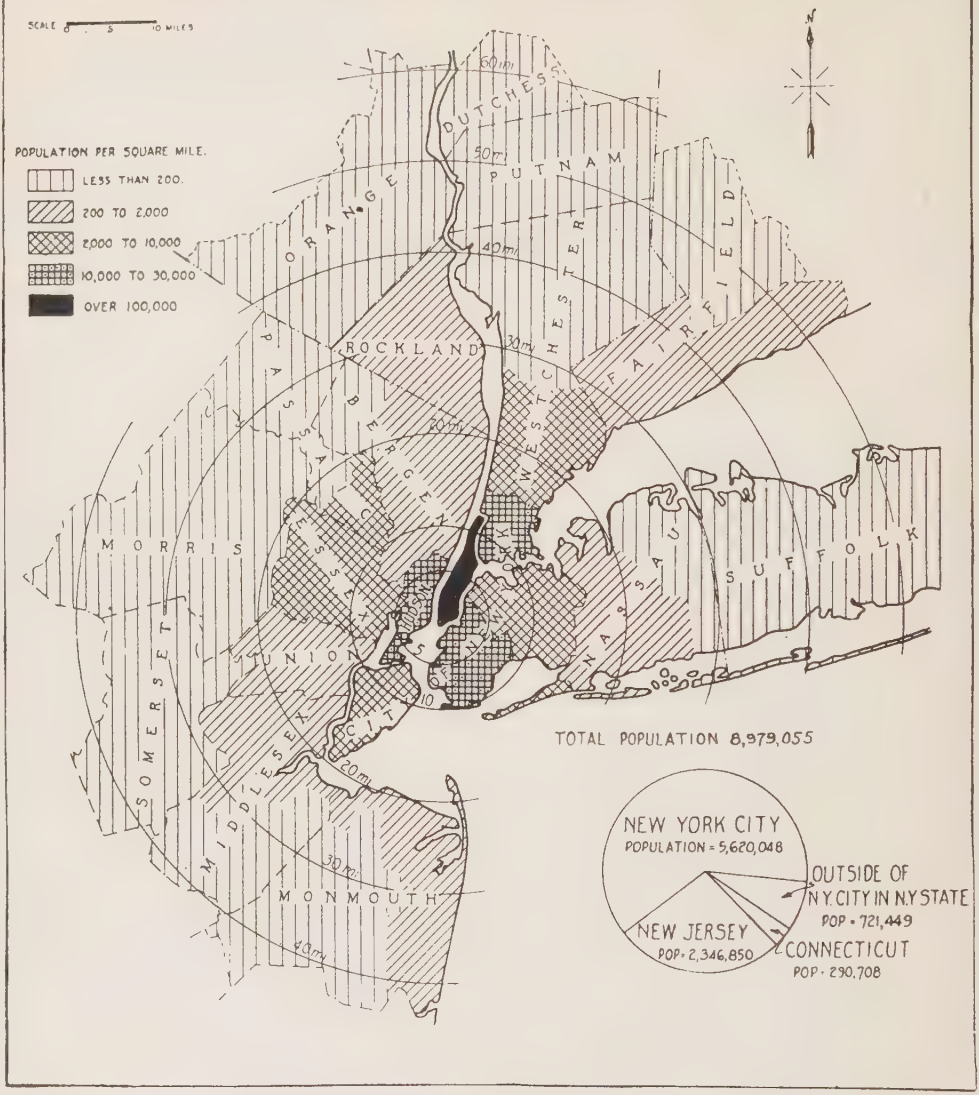
A large part of the preliminary enquiries is completed, and advisory groups have been constituted for further work. The scope of the enquiries may be judged by the fields of study undertaken by the Economic and Industrial Department. They are as follows:

1. Economic factors influencing the growth and character of population.
2. Influence of transit facilities on distribution and concentration of population.
3. Place of residence and place of work of population.

[1] State of New York. Legislative Document (1923), No. 97.
[2] See the Bulletins issued by the Bureau, 949 Broadway, New York City.

## NEW YORK AND ENVIRONS

*Showing the Relative Densities of Population. U.S. Census* 1920




THE REGIONAL SURVEY OF NEW YORK

Diagram showing the area covered by the Survey and the relative densities of population.

4. Economic and industrial activities of the region.
5. Causes of localisation of centres of economic and social activities.
6. Character of manufacture within the region.
7. Building construction within the region.
8. The extent and character of public works.
9. The pressure for space—a study of causes and attempted methods of relief.
10. The real-estate market and the development of new residential districts.
11. The scale of incomes and the types of residence.
12. Economics of the suburban community.
13. Influence of the automobile on transportation in the region.
14. The integration of towns—a study in urban consolidation.

An investigation has been conducted into twelve of the leading industries of the region (chemicals, metal products, food manufacturing, woodworking, tobacco, printing, men's wear, women's garments, textiles, finance, wholesale markets, and retail shopping districts); and the results of the studies of these industries are being published in separate reports as they are completed.

The need for a wide view of the problem is realised by all connected with the survey, and the large area covered by it will give great significance to the conclusions reached. The present street-plan of New York was designed by a commission in 1811, when the city had a population of 90,000. In their report at that date the commissioners said:

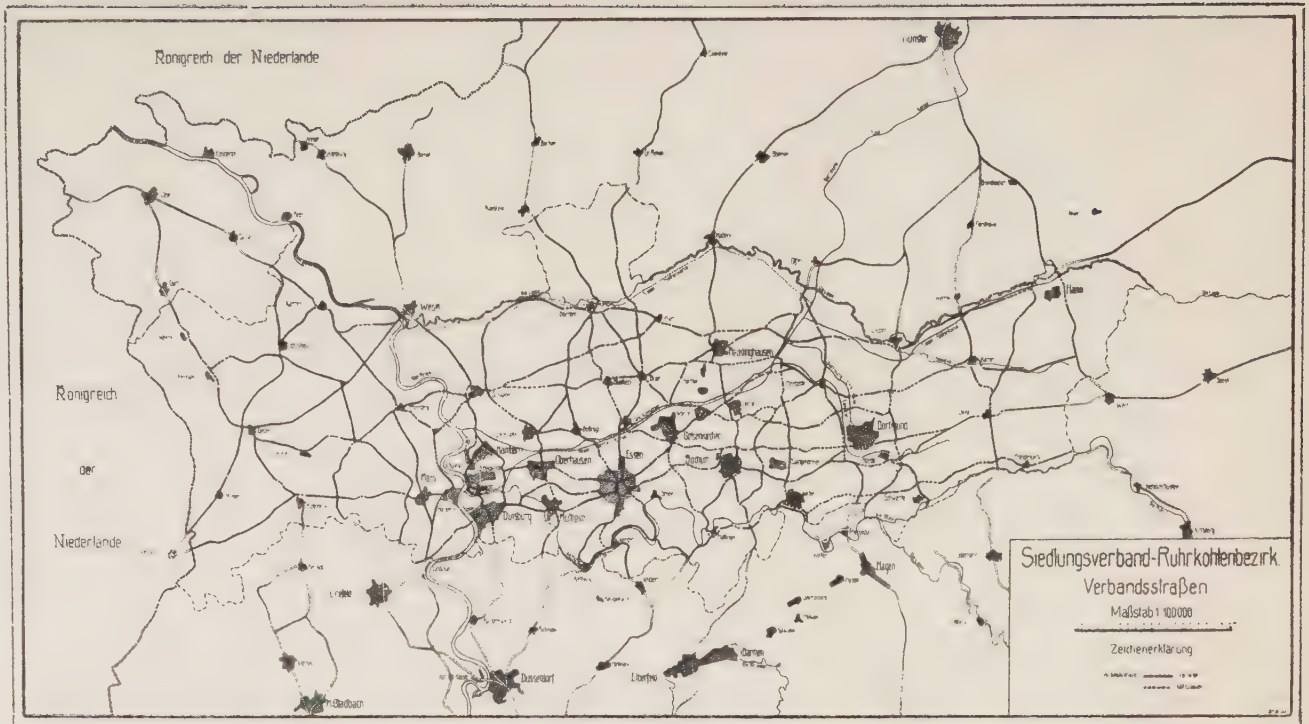
> It may be a subject of merriment that the commissioners have provided space for a greater population than is collected at any spot on this side of China. It is not improbable that considerable numbers may be collected at Haerlem before the high hills to the southward of it shall be built upon as a city, and it is improbable that (for centuries to come) the grounds north of Haerlem flat will be covered with houses. . . .
>
> It may be matter of surprise that so few vacant spaces have been left and those so small; for the benefit of fresh air and consequent preservation of health. Certainly if the City of New York were destined to stand on the side of a small stream such as the Seine or the Thames, a great number of ample places might be needful; but those large arms of the sea which embrace Manhattan Island render its situation, in regard to health and pleasure, as well as to convenience of commerce, peculiarly felicitous; when therefore, from the same causes, the price of land is so uncommonly great, it seemed proper to admit the principles of economy to greater influence than might, under circumstances of a different kind, have consisted with the dictates of prudence and the sense of duty.

The city of to-day is paying an enormous price for the principles of economy observed in 1811. And the extent of the problem may be realised when it is estimated that the population of the region will have increased in 1960 from nine to twenty millions. The large amount of valuable material that will be collected by the New York Survey will undoubtedly influence the understanding of the problems of the great city in every country of the world.

A remarkable regional planning scheme is in operation in the Ruhr coal-mining district of Germany. In May 1920, a law was passed by the Prussian Parliament establishing the Ruhr Regional Planning Federation (Siedlungsverband Ruhrkohlenbezirk). The area under the control of this body is 1482 square miles, with a population of nearly four millions. It comprises over 300 local authorities, including 18 county boroughs, the largest being Essen, and 11 counties, the latter comprising 18 towns and 285 rural authorities. The governing body of the federation consists of 172 persons, of whom one half are appointed by the local authorities in the area and one half by joint committees of employers and employed. The representatives are appointed for four years. The president of the federation, who is responsible for the exercise of its general powers, is appointed by the State. The executive head of the federation is appointed by the governing body, subject to ratification by the Ministry for Social Welfare. The functions of the federation are:

1. To plan main lines of communication.
2. To approve town-plans, and to assist in their projection by the local authorities.
3. To promote light railways.
4. To reserve large areas for open spaces, forests, etc., on which building is prohibited.
5. To sanction housing schemes in open spaces.
6. To undertake the construction of roads.

The federation can undertake works, raise loans for such purposes, and levy taxes and other charges in the same manner as a province. An executive committee is appointed with powers of action, consisting of eight of the local authority representatives and eight of the representatives of the joint committees of employers and employed, together with the director. The director (Dr. R. Schmidt) has to produce a general plan of the whole area (the first plan had to be prepared within six months of the law coming into force), which must be revised every three years; the plan and any amendments to it having to be submitted to the local authorities for consideration, and afterwards exhibited publicly, and appeal is provided for to the Minister for Social Welfare. The scheme, though still in a preliminary stage, is actively in operation.




THE AREA OF THE RUHR REGIONAL PLANNING FEDERATION

§6

This account of regional planning is not intended to be exhaustive. Its object is to indicate the field that is offered for investigation and study and the bearing of regional conditions upon town development. At the International Town-Planning Conference at Amsterdam, held in July 1924, regional planning in relation to large cities was the main subject for discussion. Evidence of the trend of thought among those engaged upon the study of this subject in many countries is provided by a resolution that was spontaneously proposed by Dutch and German delegates and adopted in a way that showed how precisely it expressed the feeling of the conference as a whole. The resolution was as follows:

1. An unlimited expansion of large cities is undesirable. The conditions prevailing in the very largest agglomerations are a warning to cities of more modest proportions.

2. Decentralisation by means of satellite towns should be considered as a means in many cases for preventing excessive enlargements.

3. It is desirable for the built-up parts of cities to be enclosed by green belts to remain set apart for agriculture, horticulture, cattle-breeding, etc., in order to prevent the formation of endless seas of houses.

4. The rapid growth of traffic, especially of motor cars and motor buses, renders it necessary for very special attention to be devoted in the future to the traffic problem, local as well as that between towns.

5. The preparation of regional plans is necessary for the development of large cities, particularly where they are situated in the immediate vicinity of one another or where many smaller towns are in the immediate neighbourhood of a large city. In these regional plans, points 2, 3 and 4 will have to receive full attention in the first place. These plans, therefore, should not be mainly plans of extension, but designed to prevent entire districts from being covered with continuous lay-outs.

6. These regional plans should be elastic and be changed according as conditions alter. Such a modification should only be made for reasons derived from public interests.

7. It is essential that, in connection with town and regional plans, power should be given to ensure that land zoned for certain purposes should be put to such use.

The resolution suggests how acute are the practical difficulties of town-planning in the absence of provision for regional plans. Everywhere it is becoming clear that the conflicting interests of rival local authorities and the estrangement between town and country are problems that will override all other considerations until something is done to solve them.

# CHAPTER III

## WHAT IS MEANT BY SATELLITE TOWNS

As regards the disentangling of existing areas, this must be a difficult and slow process; but as regards their extension the problem is comparatively easy. . . . We must arrest the pernicious system of growth by mere inflation or accretion around the fringe. We must secure the reservation of open space, and the planning of definitely organised and largely self-contained units to provide for the expansion of industry and population. We must prepare regional plans to locate these units, and design them to provide as far as possible all that is necessary to localise the life within them. Each unit must itself include all the necessary parts, and for each part space must be allowed for expansion.—RAYMOND UNWIN.

### § 1

IT will now be an advantage to define a satellite town. In the broad sense all towns that depend upon other towns may be said to be satellite towns, as Brighton of London and Blackpool of the Lancashire cotton towns. Many small towns in the neighbourhood of great cities have become residential areas for people engaged in business in the cities, and to that extent are satellites of them. The sense in which the term is coming to be generally employed and in which it is used in this book is, however, more specific. It seems first to have been used in this sense by Mr. G. R. Taylor in a series of articles which were afterwards reissued as a book under the title of *Satellite Cities*, published in New York in 1915. In that book he described a number of industrial suburbs built in the neighbourhood of Chicago, St. Louis and other cities in America. He showed the marked tendency of American industry to escape from the congestion of the cities into the surrounding country, and to establish satellite communities there in the form of manufacturers' towns, built for the employees of particular industries. Mr. Taylor does not deduce any general principles of town or regional planning from the results of his study, though he emphasises the advantages to their inhabitants and to industry of these well-designed communities, and employs them as an argument for "community planning."

The use of the term to-day in connection with town-planning arose out of the discussion provoked in this country by the revival of the

garden city movement after the war, when, with a view to popularising the conception of garden cities as distinct civic units, they were described as satellites to great cities. The public nowadays being mainly city dwellers, and political power being vested in the cities, it was necessary (quite apart from the merits of the case) to make the proposal to build garden cities attractive to those who live in and govern great cities; therefore the term satellite town became a synonym for garden city. The satellite town, *per se*, need not perhaps be conceived of as a garden city; because any sort of town, however inferior in itself, established under the influence of a great city, might properly be described as satellitic. Some people have gone so far as to endeavour to distinguish between the two ideas of the garden city and the satellite town; but that is an effort hardly worth making, because any new town, unless established in an entirely new country or in some wide uninhabited area, is practically certain to have some relations with and be within the sphere of influence of an existing city, and the proposal to establish satellite towns has never been anything but a proposal to establish garden cities. The terms garden city and satellite town are therefore employed as interchangeable terms in this book.

By a satellite town is therefore meant a town in the full sense of the word, a distinct civic unit with its own corporate life, possessing the economic, social and cultural characteristics of a town in these present times, and while still maintaining its own identity in some sort of relation of dependence upon a great city. The term does not mean a village, because a village is essentially not a town; neither does it mean a suburb or any form of community which is absorbed, or in process of absorption, into another community. The word "satellite" is used in a pseudo-astronomical sense: that is to say, of a body that is under the influence of a more powerful body but physically distinct.

## § 2

As satellite towns, in the sense which has just been defined, are also garden cities, it is necessary to consider what a garden city is. The idea of a garden city was first expounded by Mr. Ebenezer Howard in a book entitled *To-morrow*, published in London in 1898, and reissued in 1902 under the title of *Garden Cities of To-morrow*. In that book Mr. Howard proposed the building in the heart of some agricultural district in England of a town of 32,000 inhabitants in which the

most approved modern methods of engineering and sanitary science should be adopted, and the utmost attention devoted to securing healthy and beautiful houses and conditions of life and work for all classes of people. The feasibility of such a project on economic, commercial and

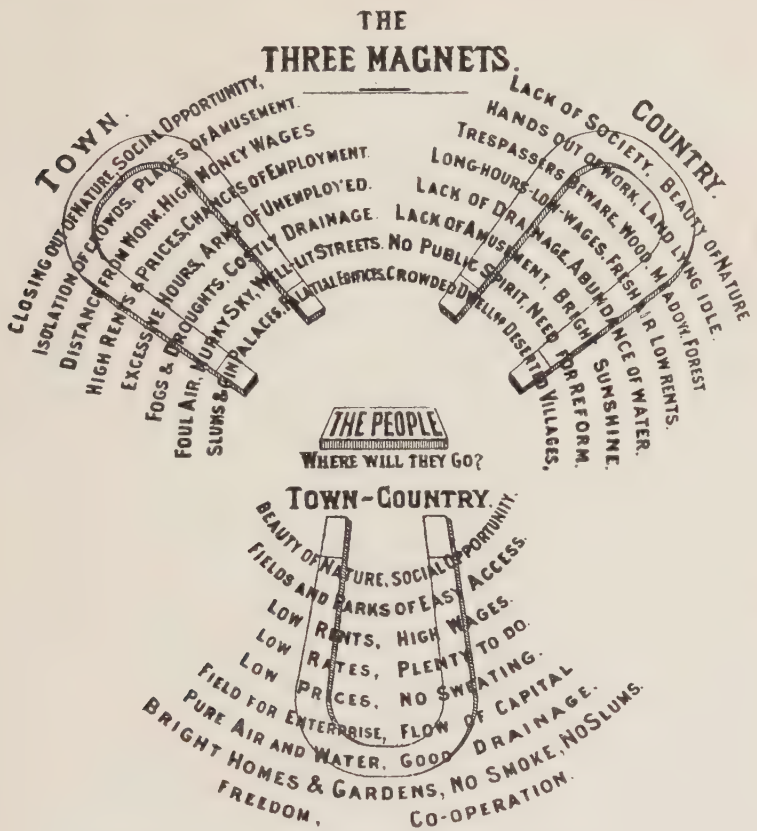

THE
THREE MAGNETS.
TOWN.
CLOSING OUT OF NATURE, SOCIAL OPPORTUNITY,
ISOLATION OF CROWDS, PLACES OF AMUSEMENT.
DISTANCE FROM WORK, HIGH MONEY WAGES
HIGH RENTS & PRICES, CHANCES OF EMPLOYMENT.
EXCESSIVE HOURS, ARMY OF UNEMPLOY'ED.
FOGS & DROUGHTS, COSTLY DRAINAGE.
FOUL AIR, MURKY SKY, WELL-LIT STREETS. NO PUBLIC SPIRIT, NEED FOR REFORM.
SLUMS & GIN PALACES, FACTORIES, CROWDED DWELLINGS, DESERTED VILLAGES.
COUNTRY.
LACK OF SOCIETY. BEAUTY OF NATURE
HANDS OUT OF WORK. LAND LYING IDLE.
TRESPASSERS BEWARE. WOOD, MEADOW, FOREST
LONG HOURS, LOW WAGES. FRESH AIR. LOW RENTS.
LACK OF DRAINAGE. ABUNDANCE OF WATER.
LACK OF AMUSEMENT. BRIGHT SUNSHINE.
THE PEOPLE
WHERE WILL THEY GO?
TOWN-COUNTRY.
BEAUTY OF NATURE, SOCIAL OPPORTUNITY.
FIELDS AND PARKS OF EASY ACCESS.
LOW RENTS, HIGH WAGES.
LOW RATES, PLENTY TO DO.
LOW PRICES, NO SWEATING.
FIELD FOR ENTERPRISE, FLOW OF CAPITAL
PURE AIR AND WATER. GOOD DRAINAGE.
BRIGHT HOMES & GARDENS, NO SMOKE, NO SLUMS.
FREEDOM. CO-OPERATION.

DIAGRAM OF THE "THREE MAGNETS" ("TO-MORROW," 1898)

financial grounds was shown, and it was contended that the success of one garden city would lead to the building of others, and by that means:

1. The migration of population from the country districts would be gradually checked, and finally reversed.[1]

2. A vast area of new and profitable employment would be opened up, affording a new outlet for industry and capital, and leading to the gradual absorption of the unemployed.[2]

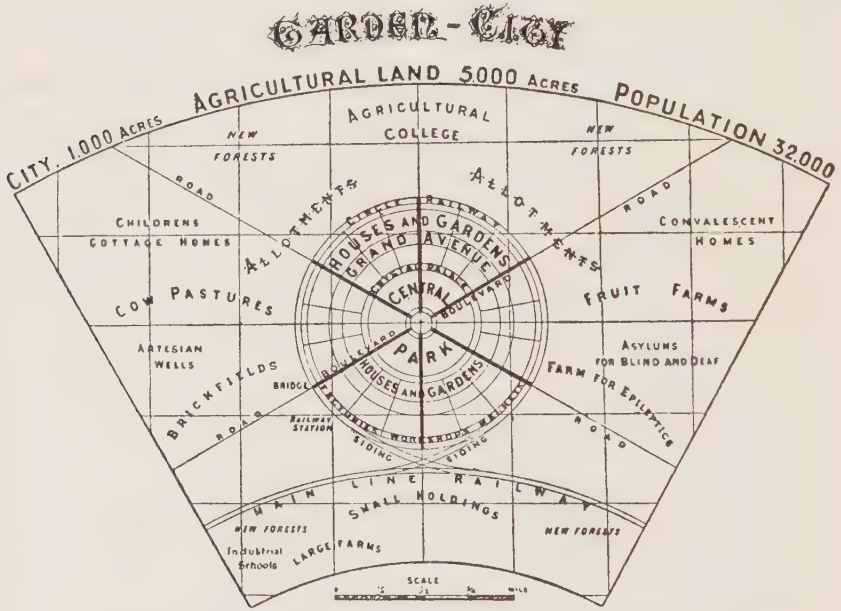
[1] *Garden Cities of To-morrow*, chaps. i., ii. and iii.

[2] *Ibid.* pp. 93, 139.

3. The productive forces of the community and the effective demand for commodities would be increased.[1]

4. Social and economic reforms now apparently impracticable would be rendered feasible.[2]

A site of 6000 acres was to be purchased at agricultural value, the estate being held in trust "first as a security for the debenture-holders, and secondly . . . for the people of garden city . . . which it is intended to build thereon." [3] The town was to be built in the centre of the estate




EBENEZER HOWARD'S DIAGRAM OF GARDEN CITY ("TO-MORROW," 1898)

and to cover about a sixth part of the area; the remainder was to be kept as agricultural land around the town. These ideas were explained by means of diagrams. Mr. Howard showed that there was a general consensus of opinion that the continued growth of the large cities and the decline of population in the country districts was an unhealthy sign. The problem, he said, was how to create in the midst of the fresh air of the country opportunities of profitable industry, prospects of advancement, and pleasant forms of social life, more attractive than any to be found in the great towns and cities? Cities, he said, are magnets which draw the people towards them; the country is also a magnet, but with

[1] *Garden Cities of To-morrow*, p. 117. [2] *Ibid.* chap. xi. [3] *Ibid.* p. 4.

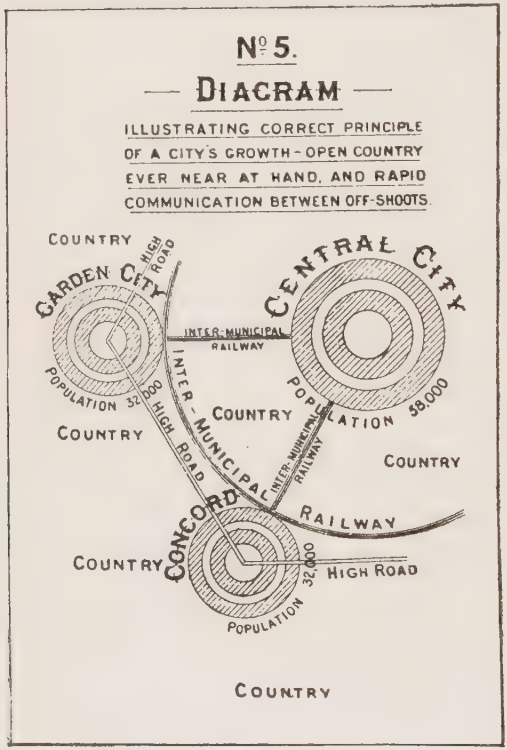
less power over the average member of the community. Therefore, a magnet of greater power than either is needed, which is to be found in the combination of town and country life in the garden city. Mr. Howard looked for the organised but voluntary exodus of people from the overcrowded towns into new country settlements. He used in support of his argument a proposal by the late Professor Alfred

EBENEZER HOWARD'S DIAGRAM OF A SECTION OF GARDEN CITY ("TO-MORROW," 1898)

Marshall [1] that workmen should be induced through the efforts of a committee, aided by their employers, to migrate and form colonies in the country. Mr. Howard incorporated with that proposal the idea that as the migration of a large number of people to a given area in the country would be attended inevitably with a rise in the value of that area, provision should be made for securing the increased value to the people whose advent had caused it. Another element in Mr. Howard's

[1] "The Housing of the London Poor," *Contemporary Review*, February 1884.

idea was the combination of town and country life which is expressed in some words of John Stuart Mill in commenting upon Wakefield's *A View of the Art of Colonisation* in these terms: "Wakefield's theory of colonisation has excited much attention, and is doubtless destined to excite much more. . . . His system consists of arrangements for securing that each colony shall have from the first a town population bearing due proportion to the agricultural, and that the cultivators of the soil shall not be so widely scattered as to be deprived by distance of the benefits of that town population as a market for their produce."[1] Mr. Howard carried his idea further by showing a system of towns, separated from each other by agricultural belts, the smaller towns being in a sense satellites of the central city. This is in some degree the most interesting and original part of his book. He based the idea on the growth of the city of Adelaide in Australia, the suburbs of which developed outside the area of the open land reservations around the city. When the original garden city is built up, said Mr. Howard, how shall it grow? "It will grow," he answered, "by establishing—under Parliamentary powers probably—another city some little distance beyond its own zone of 'country,' so that the new town may have a zone of country of its own."[2] He conceived the idea of town clusters, "each town in the cluster being of different design from the others, and yet the whole forming part of one large and well-thought-out plan."[3] In this we see the idea of the satellite town, and it is well to realise how explicit that idea is in the original conception of the garden city.




HOWARD'S DIAGRAM SHOWING SATELLITE GARDEN CITIES

[1] *Elements of Political Economy*, Book I., chap. viii. § 3.
[2] *Garden Cities of To-morrow*, pp. 129, 130. [3] *Ibid.* p. 128.

## §3

The publication of Mr. Howard's book aroused a good deal of interest, and after much discussion an attempt was made to build a town on the lines that he proposed. Letchworth, the first garden city, was founded in 1903, five years after the book was published. A second garden city, at Welwyn, was founded in 1920. These two garden cities are satellite towns of London. Although Letchworth was not started as a satellite town, the idea of its promoters being rather to establish a new town *de novo* as an example of a garden city, it is as a fact within the London region, and its growth and future are bound up with that region. Welwyn, on the other hand, twelve miles nearer to London than Letchworth, was established in the definite relation of a satellite of the metropolis, with a view to showing how development should proceed in the area. Letchworth is planned for a town of 35,000 inhabitants, and is 32 miles from London; Welwyn is planned for a population of 40,000, and is 20 miles from London. The two garden cities are on the same railway and served by the same highways from London to the north. They are in the same county (Hertfordshire). They illustrate very forcibly the practicability of securing land and establishing new satellite towns near enough to each other to have common interests, yet far enough away from each other for there to be no possibility of their merging into one.

Since 1903, when Letchworth was established, a number of housing and land development schemes have been started in different parts of the country to which the descriptive title of garden city or some variant of it has been given. Some of these schemes are valuable public enterprises, but none of them is a garden city. The term "garden suburb" was applied to certain undertakings, such as the Hampstead Garden Suburb, in which particular elements of the garden city, such as town-planning, were observed. Other schemes, such as Bournville, were called "garden villages" for similar reasons. The use of these names shows that the schemes were known to be different from garden cities; but a certain confusion grew up in the public mind, so that "garden city," "garden suburb" and "garden village" came to be used indiscriminately. The worst result, however, was that "garden city" was adopted in some instances by the promoters of private land speculation schemes with the apparent object of deceiving the public. In 1914 it was stated that "many of the schemes that are called garden city schemes have

nothing in common with the garden city movement but the name, which they have dishonestly appropriated. Schemes of the wildest speculation, land-sweating, and jerry-building, have all been promoted in the hope that the good name would carry them through." [1]

After the war, with the revival of interest in housing there was a widespread tendency to call any municipal housing scheme a garden city, which was checked to some extent by those at that time interested in the garden city movement. There was also a growing disposition to misuse the term for speculative purposes. The council of the Garden Cities and Town-Planning Association thereupon considered the matter and after careful enquiry formally adopted in 1920 a definition of a garden city in the following terms:

> A garden city is a town designed for healthy living and industry; of a size that makes possible a full measure of social life, but not larger; surrounded by a rural belt; the whole of the land being in public ownership or held in trust for the community.

The value of such a definition is a very practical one, and enables a test to be readily applied to any proposed scheme. The definition has five parts. (1) A garden city is a town, not a village or a suburb. It has, that is to say, a distinct civic and corporate life, and should possess those economic and other characteristics that belong to towns. (2) It has a town-plan in which provision is made for healthy living for all classes of the community and for industry. (3) The town is of a size that makes possible the enjoyment of the social and other advantages that towns can provide, but is no larger than is necessary; in other words, the town is limited in size to an area and population required by social and economic efficiency. (4) The town is surrounded by a rural belt so that the benefits of country surroundings are permanently secured and agriculture becomes an integral part of the town's economy. (5) The whole of the land is in public ownership or held in trust for the community, so that the community secures the economic advantages from the increase in land value arising from the increase of population.[2]

## § 4

We shall proceed to give an account of the two garden cities; but before doing so it will be worth while to examine briefly certain schemes

[1] *The Garden City Movement up to Date*, by E. G. Culpin, p. 9.

[2] For a full discussion of this subject see *Town Theory and Practice*. Edited by C. B. Purdom; with contributions from Professor W. R. Lethaby, Raymond Unwin, G. L. Pepler, Sir Theodore G. Chambers and R. L. Reiss.

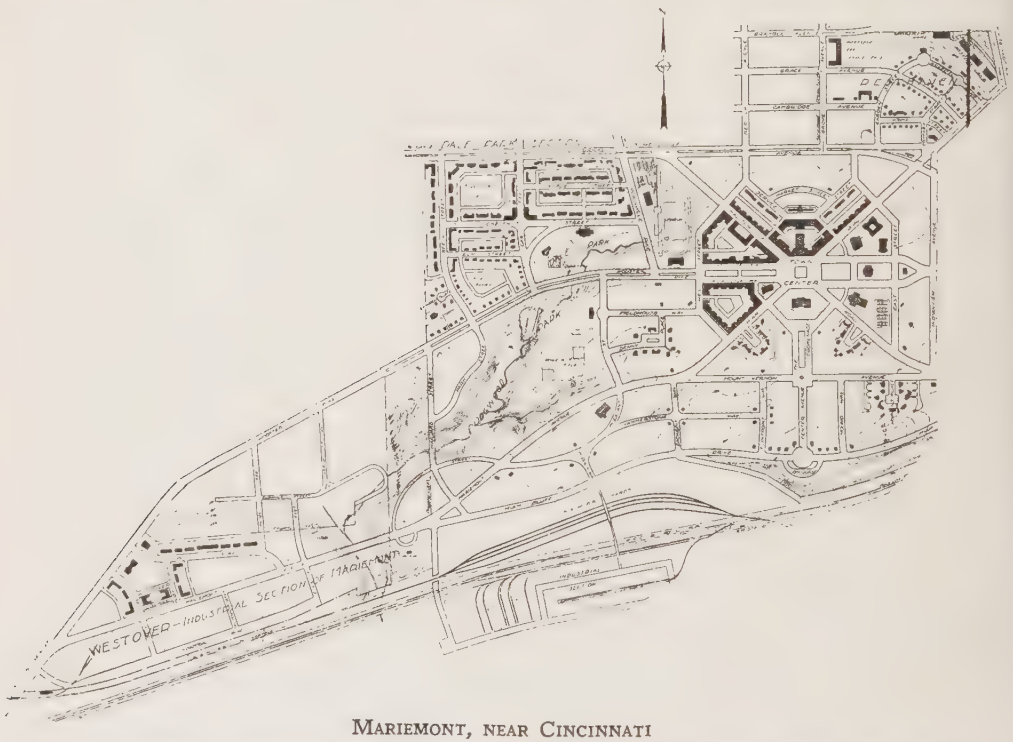
in this country and abroad that possess, or are supposed to possess, some characteristics of the garden city or satellite town, and to consider certain projects that have been brought forward from time to time that have a bearing upon the subject.

In the first place we may look at the most important scheme described in Mr. Taylor's book, *Satellite Cities*. This is Gary, Indiana, established by the United States Steel Corporation in 1906. About twenty square miles of shore frontage on Lake Michigan were purchased, about twenty-six miles from the centre of Chicago. The strip of land on the lake was reserved for factories, and on that area one of the most highly developed industrial plants in the United States was constructed. The rest of the land was put in the hands of a subsidiary company, the Gary Land Company. This company refrained from profiting by the increased land values at the expense of the employees of the corporation; but did not go far in planning the town, and the adjoining area was exploited by land speculators. Within three years the town had a population of 12,000, in 1912 it had grown to 25,000, and in 1920 to 55,378. A more recent town is that established by the same corporation at Fairfield, near Birmingham, Alabama. The land for this town, with the exception of that required for the steel plant, was sold to the Corey Land Company—Corey being the name originally given to the town. Neither the steel corporation nor its officials had any financial interest in the land company. The property was operated by the Jamison Real Estate and Property Company, which made a genuine attempt to make the place a model town in contrast to Gary, which was anything but a model town. The town lots were subject to a number of severe restrictions, but they were offered to investors who were actually invited to secure them as a speculation. These two schemes cannot be regarded as satisfactory satellite towns, for Gary is now practically part of Chicago as Fairfield is of Birmingham. They do not fall within the definition of a garden city, and, like other industrial towns of the kind in America, they are neither large enough nor is their planning or administration sufficiently complete.

During the war the growth of war munition industries caused the United States Government to set up an organisation to undertake housing on a large scale, in connection with which a number of new towns was started; but though large sums of money were expended, the towns have practically no permanent interest. They were located to serve particular war plans, but with one or two exceptions their

planning followed conventional lines, they were wasteful in lay-out, and were abandoned before they were actually completed.

Mariemont, nine miles east of Cincinnati, established in 1922 by Mrs. Mary M. Emery of that city, and planned by Mr. John Nolan and Mr. Philip W. Foster, is an example of private enterprise in estate development that has been directly inspired by garden city ideas. It is variously described as a "garden city," a "garden suburb," a "village,"




MARIEMONT, NEAR CINCINNATI

The Plan shows two projected industrial sections. The Dale Park residential section has been practically completed. Plan by John Nolan and Philip W. Foster (1921).

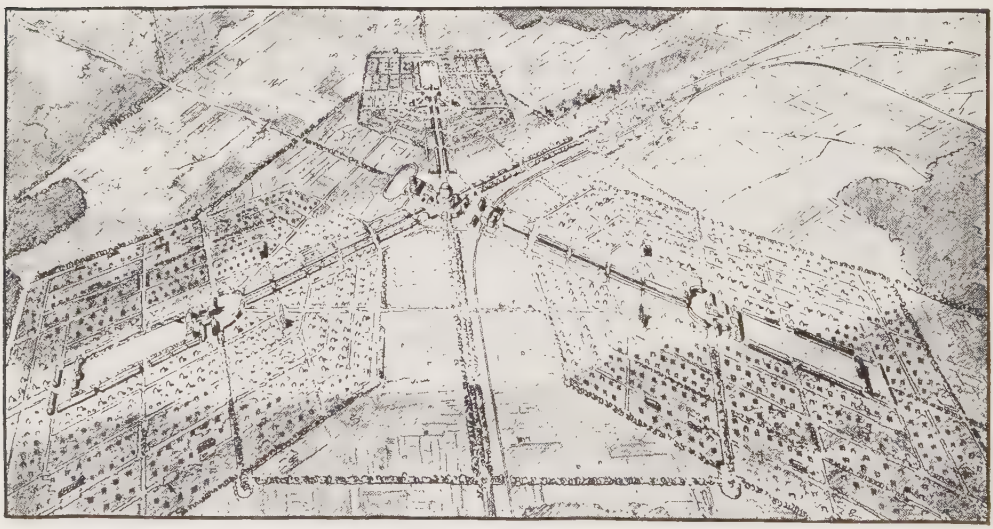
a "town"; but its small area (420 acres) is sufficient to indicate that it is suburban in character, with only a little of the essential character of a garden city. The scheme is intended to be self-contained, with its own shopping, recreation, schools and other features, and a few acres are reserved for industrial purposes. It is near the industrial towns of Norwood and Oakley, and is intended to serve them and at the same time to act as a "satellite city" of Cincinnati. Accommodation is planned for about 9000 people. The scheme is described as "primarily a resi-

MAP SHOWING PROPOSED SATELLITE TOWN DEVELOPMENT IN CONJUNCTION WITH HIGHWAY CONSTRUCTION IN THE NEIGHBOURHOOD OF COPENHAGEN

The circles indicate proposed satellite town sites.

PLATE II.

Mr. James Thomson's Map of Dundee, Showing Proposed Reclamation Areas, Arterial Roads, and Sites for New Factory and Housing Areas



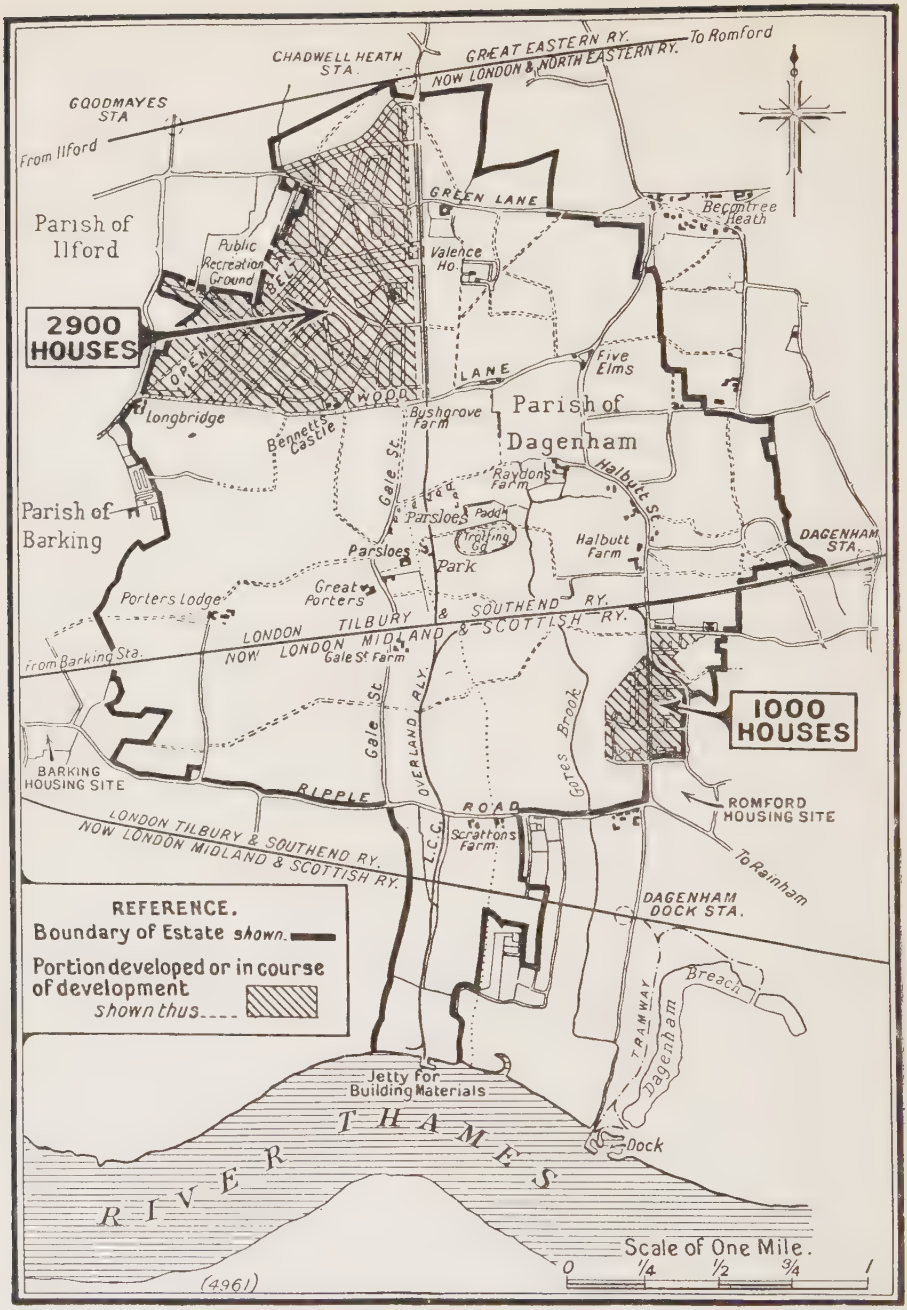
German Scheme for Triple Garden Cities, with a Common Centre and a Centralised Industrial Area

The three together are intended to provide for a population of 100,000 or thereabouts. (Herr Paul Wolf, 1922.) Herr Wolf has prepared a sketch plan for greater Dresden, showing the application of the satellite town idea by the development of further industrial areas and semi-rural suburbs, surrounded by areas of forest and agricultural land.

dential district for wage earners of different economic grades"; and is to be regarded as "an ordinary real estate development on normal American lines, except that everything has been scientifically planned in advance and that the owner limits profits and will share the town's success with those who live in it." It is intended to retain the ownership of the "business blocks on the town centre" to enable the inhabitants to share in the prosperity of the enterprise. The public utilities are being installed in advance and the company operating the scheme on behalf of the owner is building a large number of houses as well. As the place develops it may come to possess certain interesting features in social development.

The largest scheme of post-war housing in England was also the nearest to a satellite town, and exhibits, in its shortcomings, not only the necessity for the comprehensive planning and the regional point of view that we have urged, but the absence in itself of functional planning. The London County Council bought in 1919 an area of 3000 acres in Essex, adjoining Ilford, for building 24,000 houses, to accommodate 120,000 persons. It was the intention to complete the scheme within five years; but owing to the high costs of building, and faced with a loss of £50 to £60 a year on each house, the council cut the scheme down to 2000 houses, which has gradually been increased to 6000. The scheme was most ambitious; it was claimed to be a garden city and satellite town, and it was embarked upon with much enthusiasm. It had within it, indeed, the germ of a great undertaking and might have been made a valuable contribution to city-building. Unfortunately, however, it was planned as a large-scale working-class suburb, and building was actually started in the Ilford part of the estate as an addition to that already overgrown district. The land is outside the county boundary, being in the urban districts of Barking and Ilford and the rural district of Romford. The London and North-Eastern Railway bounds the estate on the north, between Ilford and Chadwell Heath stations, and the southern part is intersected by the Southend branch of the same railway. Practically the whole of the land was market-gardens.

London on the east has not developed as it has elsewhere. Between Aldgate and West Ham and up to Ilford there has been a great amount of building within the last hundred years; but there has been none of the straggling growth, the long arms of development that may be observed on the north, south and west. The existence of Epping and Hainault forests and the marshes of the Thames, together with under-




*By the courtesy of "The Times"*

PLAN OF THE BECONTREE ESTATE

developed road and rail communications, have kept Essex free from that characteristic form of London expansion, so that the county has remained the nearest unspoiled country to London.

The riverside area between Barking and Tilbury is almost certain to become an important industrial area. Already there are large factories all along this land, and new docks and wharves are being constructed. A large part of this land is unsuitable for houses, being reclaimed mud flats, but on the other side of the main road from London to Tilbury the land gradually rises and is excellent for building. It is this land that is being developed by the London County Council.

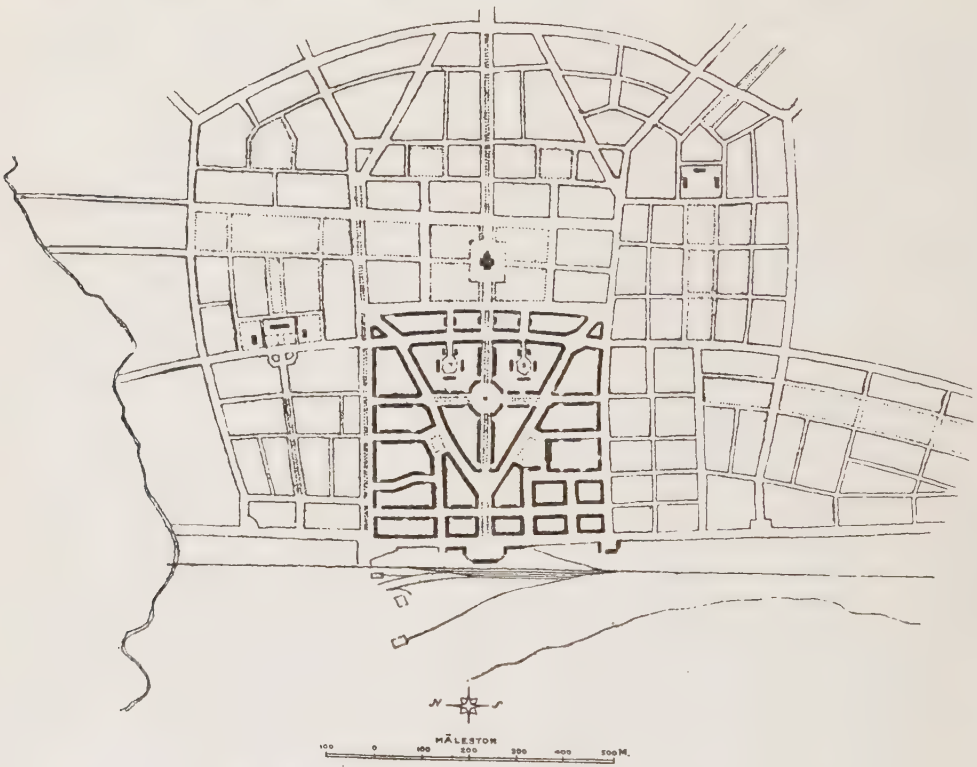
The shortcomings of the scheme from the garden city point of view are: (1) that instead of being designed as a definite town with its own civic life it is being developed as a part of the existing urban districts; (2) it is a housing scheme for the working class merely, and does not provide for all classes of the community; (3) its social amenities are unorganised; (4) land between Ilford and the new development was not retained as an agricultural belt; (5) the scheme is not being carried out in relation to the future industrial developments in the area, providing houses for the people to be employed in the new factories; and (6) that as a dormitory town for London it is placed on a site rendered unsuitable because of inadequate road facilities and the existing highly congested state of the railways.

A report by the city engineer of Dundee, Mr. James Thomson, prepared in 1918, is a most interesting document; for Mr. Thomson takes a long view, and in showing that the extension of the city area from the present 6548 [1] to a future 12,700 acres is "essential for proper and uninterrupted expansion," he emphasises the need for an absolute change from the present method of city growth as one mass without intervening spaces. He urges the city council to acquire, at every opportunity, undeveloped land at as nearly agricultural value as possible, and suggests the limitation in size of all new combined industrial and housing areas to a maximum to be hereafter fixed, and the separation of all new combined industrial and housing areas from each other, and

[1] The present area of the city of Dundee is made up as follows:

| | |
|---|---|
| Parks | 8 |
| Open spaces, not public | 2 |
| Cemeteries | 2 |
| Industries, Railway and Harbour | 10 |
| Residential | 42 |
| Agricultural | 36 |
| | 100 per cent. |

from existing areas, by open spaces and wooded belts. Mr. Thomson proposes the abolition, step by step, of all slum areas, the improvement by degrees of the central area and all congested districts, and the gradual widening of central main streets. Mr. Thomson's report shows a decided tendency towards satellite town development.




STJORDALSHALSEN, A SATELLITE OF TRONDHJEM (NORWAY)

The area of the town is about five hundred acres, but a large surrounding area is intended to be kept as an agricultural belt. The railway is shown at the bottom of the plan; on the other side of the railway is a large industrial area. The circular place on the main axis is the civic centre; further on is the church, in a small park. Plan by Sverre Pedersen (1920).

In connection with a regional road-plan of Copenhagen a series of suburbs which have some likeness to satellite towns has been projected. These are formed at road junctions and around existing towns or villages to which there are railway facilities. There are twenty-one communities in the country surrounding Copenhagen, and at the suggestion of the Society of Danish Civil Engineers these communities and the city of Copenhagen appointed a committee to consider the question of

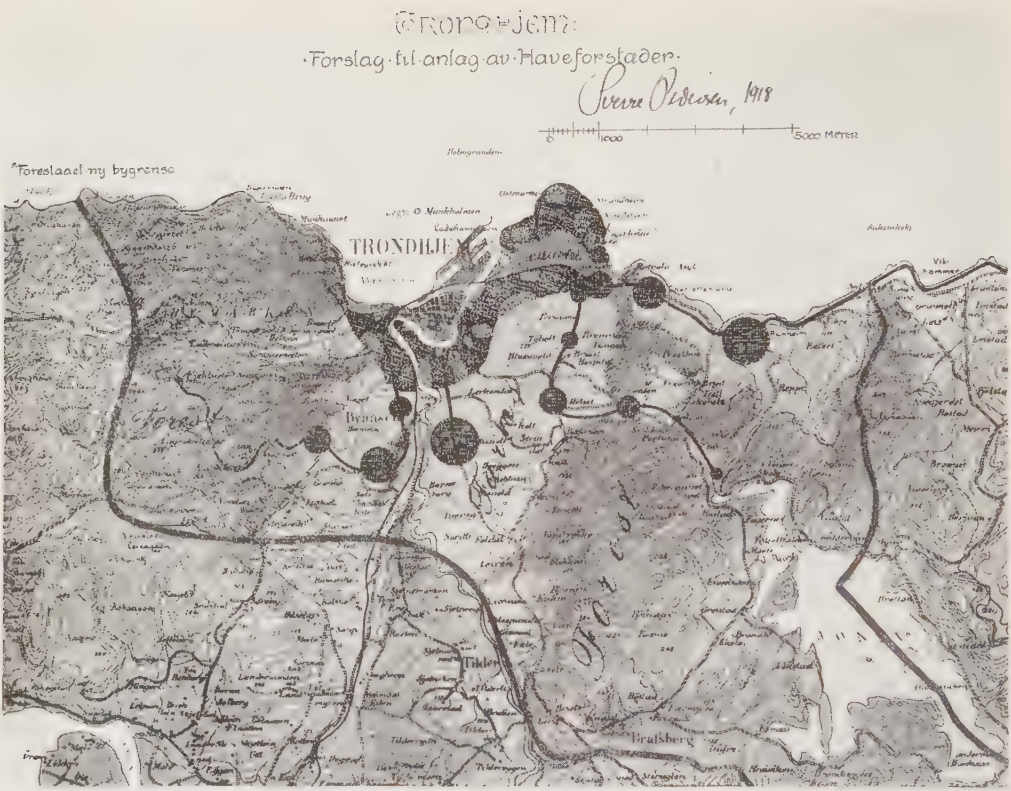
*Sverre Pedersen, Architect.*

MO I RANA: SHOPPING CENTRE AND HOTEL

*Sverre Pedersen, Architec .*

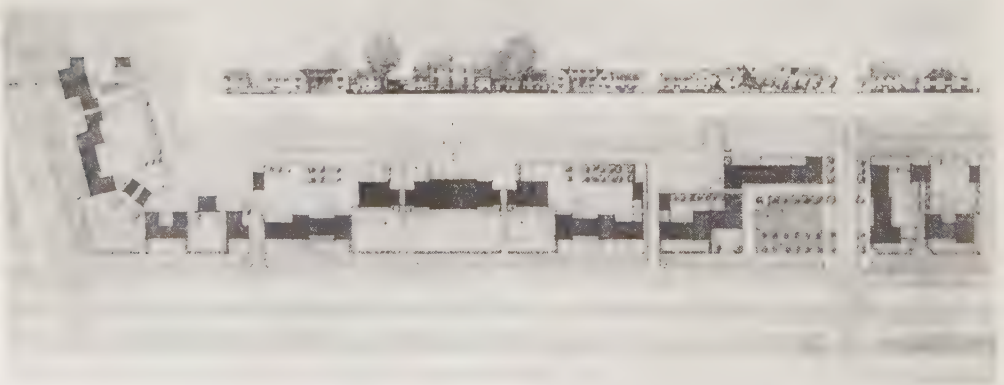
STJORDALSHALSEN: THE SQUARE IN FRONT OF RAILWAY STATION

The station is connected with the shops in the square by means of a covered walk.




PROPOSED SMALL TOWNS AROUND TRONDHJEM (NORWAY)

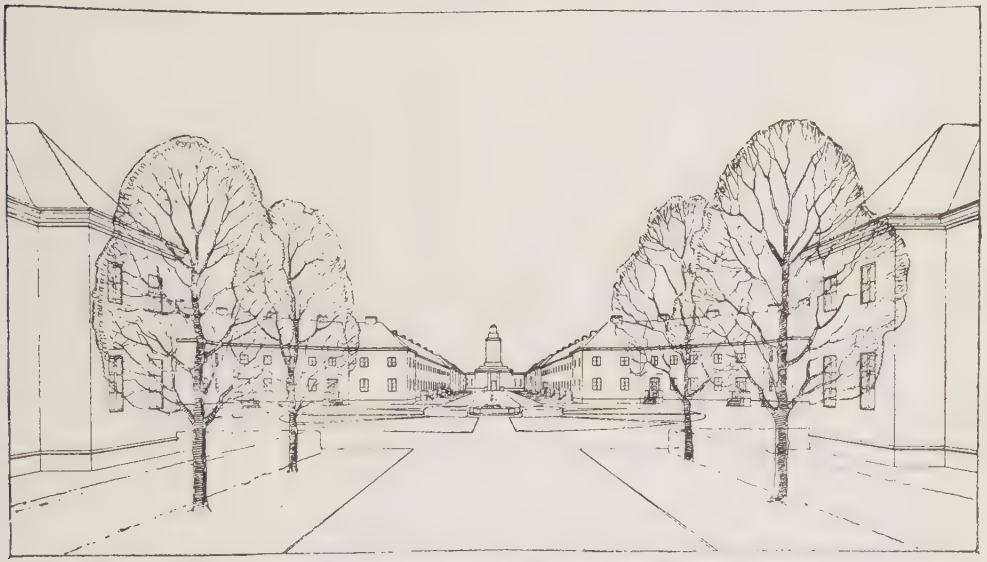
The three on the left are now being built. Plans are being made for the town just south of the city, named "Sluppen." Plans have not yet been prepared for the others. Stjordalshalsen, which is illustrated on the preceding plate and in the text, is twenty-five kilometres from Trondhjem on the northern railway, near the coast, to the right of the plan. (Designed by Sverre Pedersen, 1918.)



MARIEMONT: LAY-OUT OF GROUP OF HOUSES ON MURRAY AVENUE
(See p. 24.)

main roads. A sub-committee of five members was made responsible for the plan, which was prepared under the direction of the city engineer, Mr. A. Bjerre. The plan shows marked evidence of garden city influence and seems to be capable of development along those lines; but the satellites are too near the city to remain distinct.

Professor Sverre Pedersen, late city architect of Trondhjem in Norway, has prepared a plan for the development of the country district around the town within an area of eight kilometres. The idea is to limit the town to its present area by means of an agricultural belt, providing



Civic Centre in Stjordalshalsen, Satellite of Trondhjem. Sverre Pedersen, Architect

for its expansion by means of separated small towns or suburbs, each carefully planned with sites for industries. The town owns a large area of the land, and the intention is to buy up the whole of the land for the new developments. The sites are smaller than would be considered satisfactory in some other countries, but these schemes are not only of outstanding interest as town-plans, they are probably the nearest to true garden city development of any of those that we are considering.

Garden suburbs are to be found in Germany near all the big towns, and garden villages are exemplified by such schemes as those of Krupps near Essen; but none of these has any interest as a garden city or satellite town. The nearest scheme to a garden city in Germany is Hellerau, six

kilometres north of Dresden. The Gartenstadt of Hellerau was founded in 1908 by Karl Schmidt, a well-known pioneer of arts and crafts in Germany, and Wolf Dohrn. The estate comprised 130 hectares (530 acres), and the intention was to build a small town of 10,000 to 15,000 inhabitants as a centre of hand-crafts, art and education. The plan was prepared by Professor Riemerschmidt. Jaques Dalcroze, the founder

Mo i Rana, a New Town in the Middle of Northern Norway

Area about a thousand acres. Land owned by one man, who had the plan prepared and is leasing, not selling, the property. Town divided into sections by narrow park belts to prevent fire from spreading. Plan by Sverre Pedersen (1919).

of the Eurythmics method of education, was associated with the scheme at an early stage, and a beautiful school building with a large festival hall designed by Professor Tessenow was opened in 1912. The development of the scheme was checked by the death of Wolf Dohrn, and later by the war; 460 houses have been built, there is a factory for the manufacture of furniture, employing about 600 persons, and three smaller factories. The total population is 2100. The scheme had some elements of a satellite town in its original conception; but it practically forms part of another suburb of Dresden, and while architecturally and in other ways

it has some significance, its area is too small ever to give it much importance from the garden city or satellite town point of view.

In Germany, as in Sweden and some other European countries, the

HELLERAU, NEAR DRESDEN
*Plan by Prof. Riemerschmidt* (1908).

extensive ownership of land by cities, much of which is forest, tends to the maintenance of green areas on the outskirts, separating them from their suburbs. But the cities seldom (the writer does not know of an instance) own actual belts of land, but rather detached areas in various

parts, so that they hardly fulfil the function of agricultural belts, or assist materially to restrain the expansion of the cities.

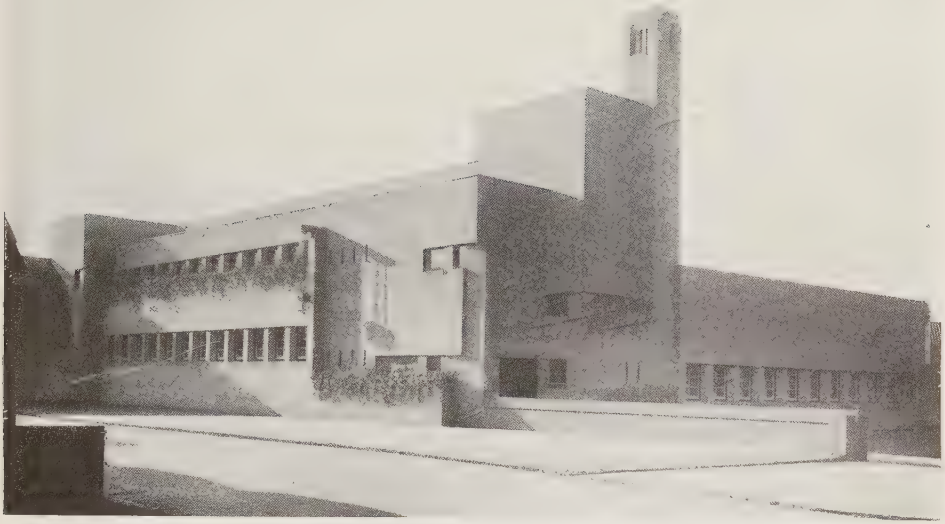
Hilversum, in Holland, a town of between 40,000 and 50,000 inhabitants, ten miles from Amsterdam and seven miles from Utrecht, has practically become a satellite of those two cities, and is now being developed as such. Many Amsterdam business and professional men live there, as well as workmen, and there are also a number of growing industries in the town itself. The municipality has carried out an ambitious programme of housing, in which the municipal architect (Mr. W. M. Dudok) has succeeded in achieving a distinctive architectural effect. The new buildings have great charm, and their lay-out has been studied with great care. The development of a large new town as a satellite of Amsterdam is being considered by the city government.

Vreewyk is the name of an estate developed by the city of Rotterdam, which is called a garden city though it is really no more than a suburb. It was laid out by Dr. H. P. Berlage in 1913, and the plan has been carried out in detail by three firms of architects, namely, Messrs. Granpré Moliere, Vehagen and Kok; de Roos and Orcreijnder; and Meischke and Schmidt. There are about 2400 houses, with churches, shops, places of amusement, etc., and building is still proceeding. The scheme is exceptionally interesting architecturally and as an example of municipal housing and estate development.

Venice provides an example of a city on an island that has established something like a satellite of itself on the mainland. Many cities restricted in area by being placed on a tongue of land jutting into a river mouth or the sea have built suburbs or extensions and have also stimulated the development of other towns across the river or bay of the sea on which they stand, New York and San Francisco being notable instances. The city of Venice has actually acquired an area of 2841 acres on the mainland from the neighbouring commune of Mestre for the extension of harbours and industries and for housing purposes, the land being allocated approximately as follows:

| | |
|---|---|
| Harbour and Docks . . . | 865 acres |
| Industrial area . . . | 1606 „ |
| Residential area . . . | 370 „ |
| | 2841 „ |

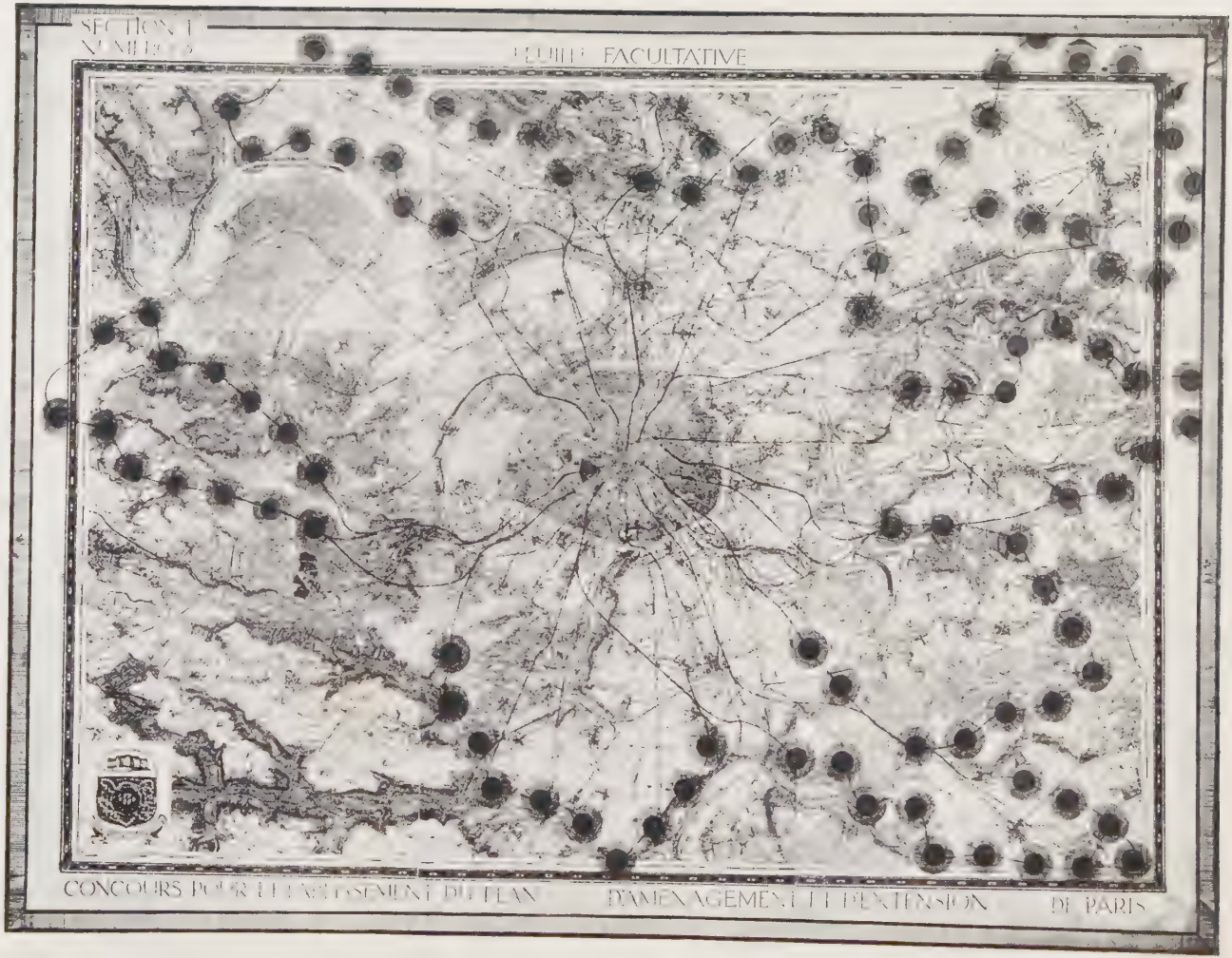
The harbour is being developed by the Societé Porto Industriale, sup-



*W. M. Dudok, Architect.*

HILVERSUM: THE ELEMENTARY SCHOOL (1921)

HILVERSUM: COTTAGES IN QUADRANGLE (1918)




PLAN BY MM. BERRINGTON, CHAURES AND FAURE-DYJARRIC FOR THE REGION AROUND PARIS
One of the main ideas is the establishment of numerous *Cités-Jardins* on new lines of railway.

ported by the State, and the provision of public services and the development of the residential area is being undertaken by the city of Venice.

Early in 1919 the French legislature passed a comprehensive Town-planning Act in which provision was made for regional treatment of town-planning problems, and in accordance with that Act the City of Paris and the Department of the Seine organised a competition for plans and a scheme for the extension of the city and the planning of the department. The results of that competition provide some remarkable material for the student of town-planning, though unfortunately but few of the plans and none of the reports have been published.[1] Practically all the plans showed Paris as a future enormous city and many of them projected numerous *cités-jardins*. The plan that received the second prize, by MM. Berrington, Chaures and Faure-Dyjarric, is probably the most interesting as showing indications of *cités-satellites*,[2] as M. Henri Sellier describes them.

In Belgium, Sweden and other countries there are interesting housing and estate developments in the neighbourhood of towns similar to those already mentioned; but they are invariably of a suburban character.

## §5

America has had numerous attempts to establish communities on a more or less co-operative basis, among them being several single-tax enclaves,[3] which in connection with land suggest something of the garden city idea of land control in the interest of the community; but the schemes are small and hardly ever contain any idea of a physical plan, being almost entirely subject to particular social or religious theories to the exclusion of any conception of the functions of towns as such.

An interesting if somewhat peculiar method of town development is the Spanish lineal city, projected by the late Don Arturo Soria y Mata in 1882,[4] and carried out in the environs of Madrid by the Com-

[1] See *La Vie Urbaine* (1920).

[2] It is unfortunate that neither "cité-jardin" nor "cité-satellite" are equivalents for "garden city" and "satellite town"; there do not appear to be any satisfactory terms in French that convey the meaning of these English terms.

[3] The word "enclave" as used by single taxers means an area of land where the economic rent is collected under the terms of leaseholds and is used to pay certain of the taxes levied by the town, county, State or nation. Economic rent is such annual payment as represents the value involved in the right to use the bare land, that is, the land considered as being without buildings, crops, trees, etc.—*Enclaves of Economic Rent*, Third Annual Volume (1923), p. 1.

[4] *La Ciudad Lineal: Antecedentes y datos varios acerca de su construcción*. Madrid, 1884. And other writings.

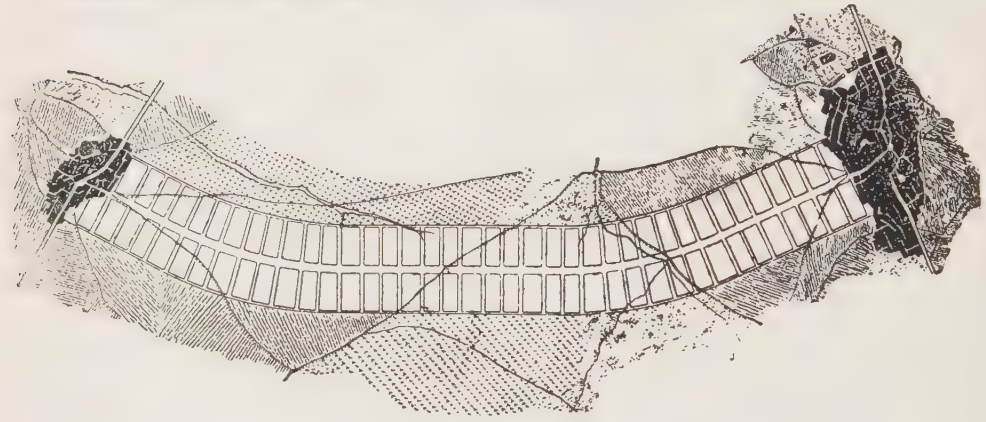
pañía Madrileña de Urbanización. As the name implies, it is the idea of building towns in straight lines. The company has completed 5200 lineal metres of the first track of the lineal city, and 17,000 lineal metres are under construction or in contemplation. One thousand eight hundred dwellings have been erected, together with 52 kilometres of railway, a water supply for 30,000 people, electric power works, etc. The fundamental principles of the scheme are described as follows:

(*a*) The means of locomotion determine the design of the city.

(*b*) The plan of a city should precede its construction.

(*c*) The form of a city should be that of its main road or street axis, or what we might call "the spine" of the urban system, making it as wide as possible (say 40 metres, or 44 yards, as a minimum), in the central part of which two or more railway lines, preferably electric, should be constructed.

Furthermore, as the regular geometrical forms (squares, rectangles and trapeziums) are the



An Example of two Old Cities linked together by a Lineal City

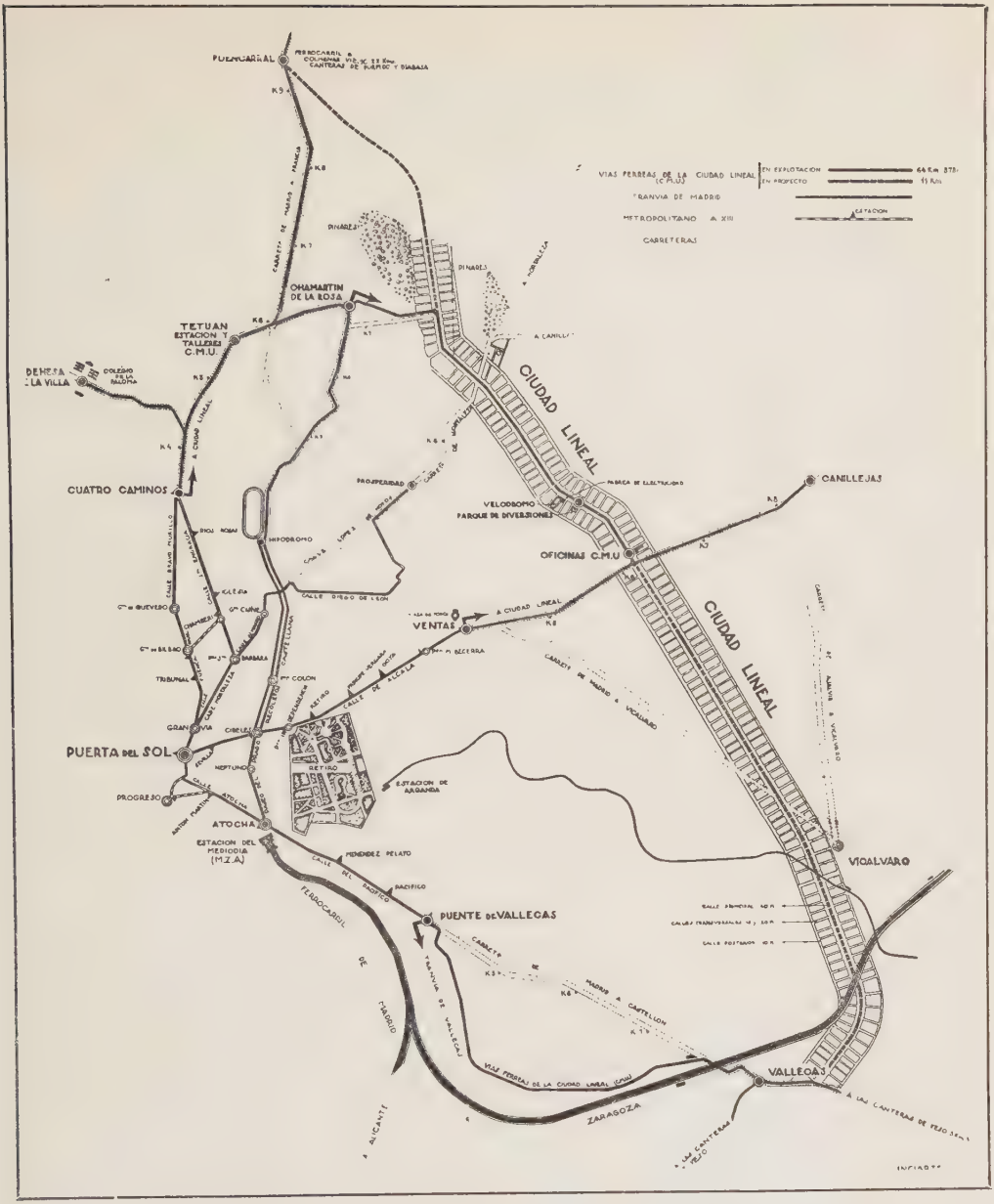
most perfect and have less perimeter than other irregular ones of the same area, it follows that the detached portions or blocks of houses of the city—which are the vertebræ of this vertebrate system—should be determined by drawing rectangular lines to the railway track in the main street or road, with a separation of at least 20 metres (nearly 22 yards) from the transverse streets, whereby the mains for water, gas and electricity supplies, as well as for sewage and other sanitary arrangements, can be laid in straight portions or lengths crossing each other at right angles, in a much cheaper, easier and perfect manner than in the existing "invertebrate cities."

(*d*) One-fifth of the area of the city should be allowed for houses and four-fifths for cultivated land, the minimum area for each house being 400 square metres.

(*e*) One house for each family, and an orchard and flower garden for each house.

(*f*) Equitable distribution of the land.

The object is to connect existing cities with each other "by means of lineal cities, thus forming in course of time in each country a vast triangular system, in which the area of each urban triangle formed by

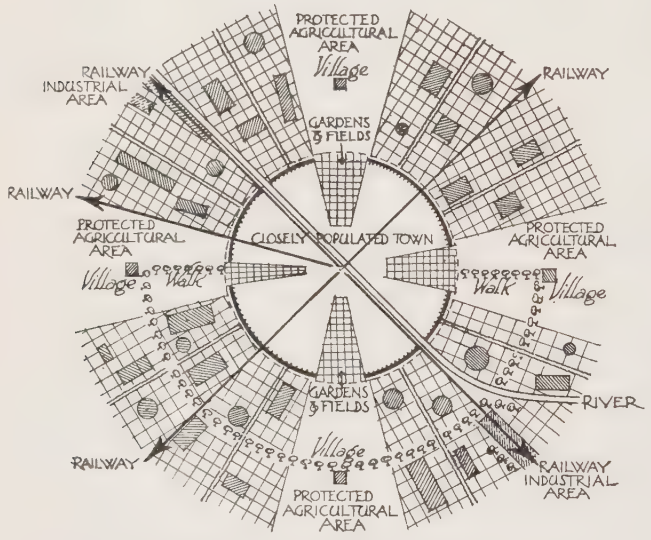



THE PLAN OF THE LINEAL CITY OF MADRID

Madrid is on the left, though not fully drawn; the chief railway station, Mediodia, is shown. The tramway from Puerta del Sol to the east cuts the lineal city in two, and at that point the offices of the company are situated. The tramway through the centre of the lineal city is owned by the company, and the park, power station, etc., are indicated. Development to date (1924) is shown by the solid black line, the broken line indicates projected development.

the apexes of the old cities and the sides of the new ones will be devoted to farming or industrial exploitations." [1]

It is claimed by the promoters that the lineal city is a superior form of city to that of the garden city; but the present writer thinks that the scheme is hardly to be regarded as city building at all, but is rather suburban in character. The lineal cities are to join up the existing cities, not to serve as city units on their own account. An obvious disadvantage is that by spreading buildings out in long lines the sense of compactness and physical unity, which is of the very nature of cities, is lost. Further, it seems doubtful if any real economy, even from a transportation point of view, is to be effected by establishing populations continuously along railway or tram routes, because both railways and trams take up their passengers at definite stopping-places, and require the largest possible population around each stopping-place. There is no benefit from being on a railway or tramway except at such stopping-places. However, the project is extremely interesting, particularly in its encouragement of agriculture and the attempt to construct cities on some kind of philosophical principle, and it has the merit of having reached a large degree of actual accomplishment.




PROF. ADOLF RADING'S IDEAL PLAN (1924) FOR A LARGE CITY OF THE FUTURE

Showing industrial development and permanent agricultural areas. The hatched sections indicate residential areas with cultivated gardens, fields, orchards, etc. A feature of the plan is that the area of the closely-populated town is restricted.

The reference to this scheme suggests that an interesting study could be made of the theoretical projects for modern cities that are now being brought forward in many countries of the world. These projects are in a large measure influenced by garden city ideas, and many of them have been suggested in the course of attempts that have

[1] See *Rational Architecture of Cities* (Madrid, 1924). Also the journal *La Ciudad Lineal*.

Map showing the Position of Hellerau in Relation to Dresden
(See pp. 39–40)

A Factory in Hellerau

The Dalcroze School, Hellerau

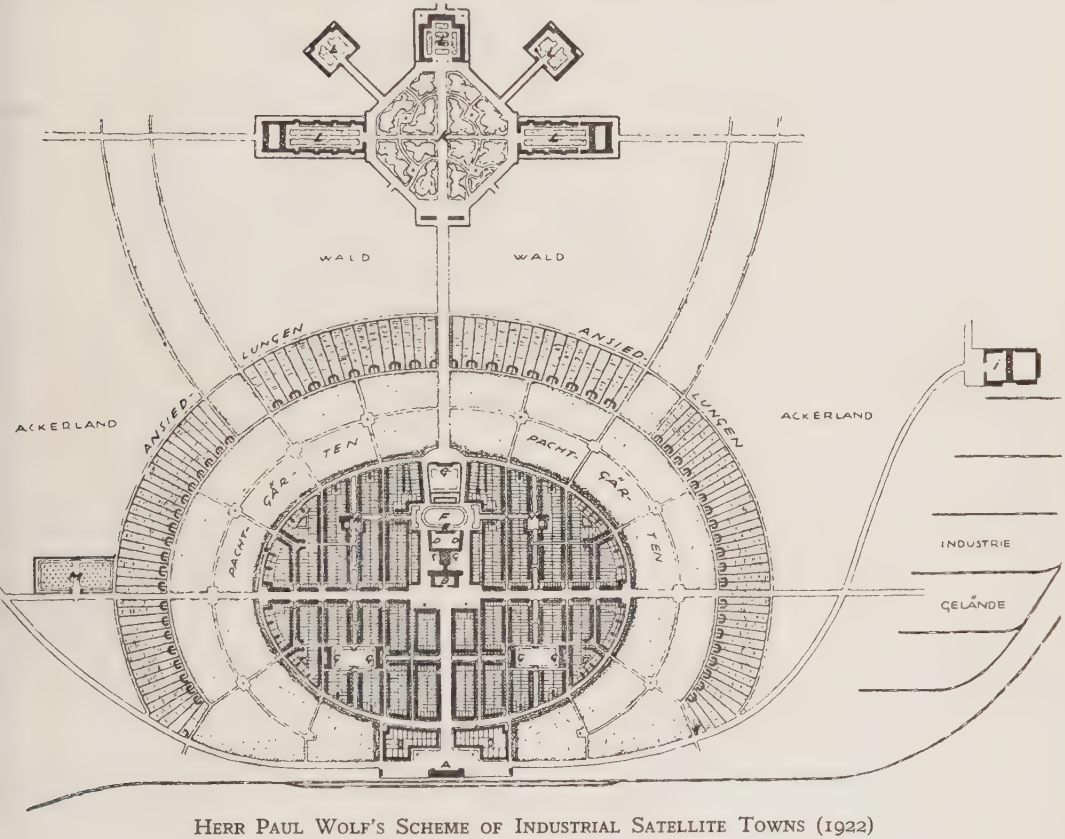
The School Square

A House in Hellerau

SKETCH OF KIEL (GERMANY), SHOWING THE GREEN BELT AND THE CITY LAND CULTIVATIONS

Based on the scheme of Leberecht Migge, and laid out by the Town-Planning Department of the city. The first unit of 200 hectars, on land bought by the city for the purpose, has been carried out, divided into 700 allotments. The essence of the scheme is the systematic development of lands around the city for allotment gardens, cottages with gardens, and intensive agriculture to meet the food demands of the city. The scheme provides for co-operative working and the utilisation of sewage and household refuse as fertilisers. (See footnote on p. 322 of text.)

been made to deal with practical problems of city expansion. In the latter connection an ideal town design by Professor Adolf Rading may be mentioned as being influenced by his study of a plan for the city of Breslau and the surrounding towns within sixty kilometres,[1] also the scheme of Herr Paul Wolf (City Architect of Dresden) for industrial




Herr Paul Wolf's Scheme of Industrial Satellite Towns (1922)

satellites of a large city,[2] and M. Jules Scrive-Loyer's scheme arising out of his proposals for the extension of Lille and the planning of its surroundings.[3]

Mr. Raymond Unwin's diagram of garden city development is well known. He calls it "the garden city principle applied to suburbs."[4]

[1] See *Grosstadtbildung* by Adolf Rading, in *Die Umschau* (Frankfurt-a-Main, 6th Sept. 1924). An interesting article with maps and diagrams.
[2] See *Der Stadtebau*, Nos. 11–12, Vol. XIX.
[3] See *Les Projets d'Aménagement de Lille* by C. Hesset, in *La Revue Moderne* (Paris, 30th Aug. 1923).
[4] It is reproduced in *Nothing Gained by Overcrowding* (1918), and elsewhere.

So far as the writer knows, Mr. Unwin has never given a complete description of this diagram, but more recently he has prepared another

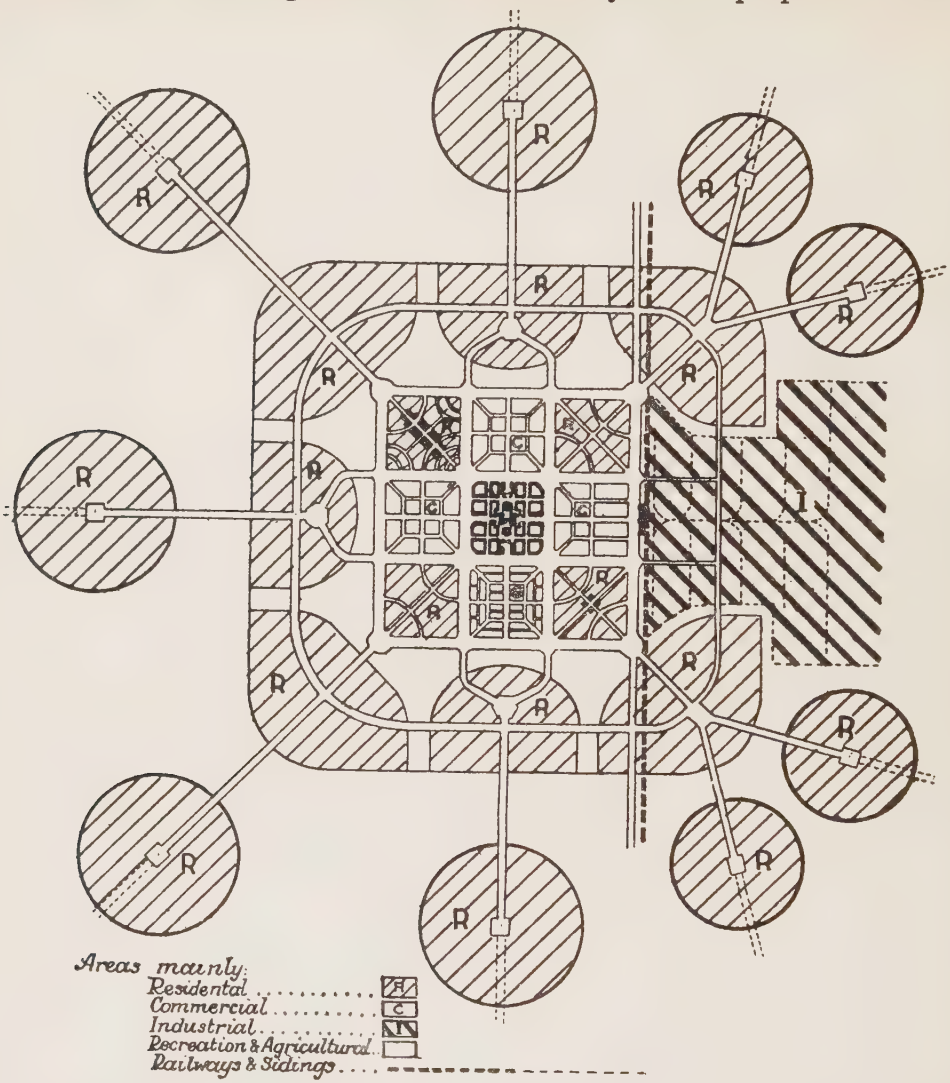



DIAGRAM SUGGESTING A METHOD OF ZONING A TOWN, AND DIVIDING IT INTO DISTINCT WARDS DEFINED BY OPEN SPACES

*Designed by Raymond Unwin* (1922).

diagram (reproduced here) which seems to convey somewhat the same ideas, for it suggests town extension by "means of detached suburbs grouped around some centre and separated from the existing town by

at least sufficient ground to provide for fresh air, recreation, and contact with Nature." [1]

A somewhat similar idea to Mr. Unwin's, but further developed

Diagram illustrating Mr. Robert Whitten's Theory of Satellite Towns (1923)

and nearer to the garden city idea, is that suggested by Mr. Robert Whitten, of Cleveland, Ohio, which he describes as follows: [2]

The accompanying diagram, drawn primarily to show the use of open development strips in metropolitan planning, serves to illustrate several other possible improvements in the organisation

[1] *Nothing Gained by Overcrowding*, p. 4. [2] *Landscape Architecture* (January 1924).

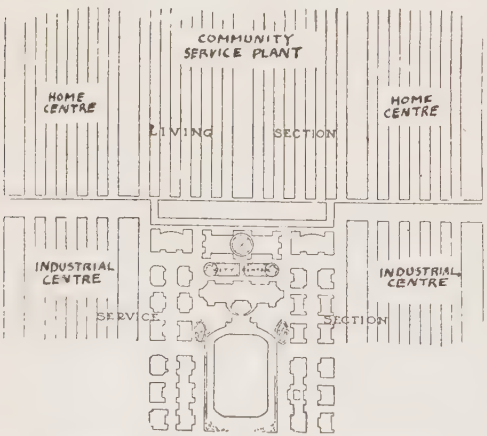
of the metropolitan region. The central city would be surrounded by numerous separate and self-contained suburbs or satellites; the permanent separate existence of these satellites would be secured by the broad open development areas separating them from each other and from the central city. This differs from the proposal frequently made for agricultural belts in that the open development strip is to be used very largely for urban and semi-urban uses of land such as: large parks, parkways, playfields, forest reservations, golf and country clubs, private estates, cemeteries, water supply reservoirs and filter beds, air terminals, city, county and State farms and institutional buildings, private institutions occupying large acreage, fair grounds, sewage treatment works, truck gardens, greenhouses, and railroad-car storage and classification yards.

In addition to these specific uses of the open development strips and the maintenance of the permanence of the satellite towns, the preservation of these wide semi-open strips will . . . give room to meet future exigencies of growth and improvements in the arts of transportation and communication. Though we cannot possibly foresee the exact nature of these requirements, we may be sure that they will involve an increased need for open or unbuilt upon areas.

The central city with its independent self-contained satellites permits an efficient specialisation of function. The central city should be devoted primarily to commerce and to the homes of the people engaged in such commerce. The suburban and satellite towns clustering about the big commercial city should be devoted chiefly to industries and to the homes of the workers employed in such industries. This arrangement will reduce traffic, transit and housing problems to a minimum and increase commercial and industrial efficiency.

Moreover, the industries and all other urban activities should be apportioned and segregated to the various suburbs in a way best suited to promote the harmonious development of each separate suburb.

Another American scheme for "a scientifically designed city" is illustrated; the basis of the plan is the division of the town into "neighbourhoods" or local community units of about seven or eight thousand people, and it is claimed that it allows the city complete freedom of growth.[1]




American Diagram of a Scientifically Designed City (1920)

These schemes might be added to, but those mentioned may be regarded as representative of certain prevailing tendencies in city design. The writer does not intend to attempt to examine them critically, or this chapter might otherwise expand into a whole book. It is sufficient to say that in varying degrees they fall short of the conception of the garden city described in these pages, and that they indicate the scope open to students in a particular field of study.

[1] *Housing and Community Planning: The New City, a Planned Physical Equipment.* By Robert R. Kern and C. Geschickter. Supplement to the *Journal of the American Institute of Architects,* November 1920.

The schemes and plans we have described and the improved standard of house-building and lay-out in most countries of the world provide, however, unmistakable evidence of the influence of garden city ideas. Under that influence it has become the habit to refer to town-planning or housing as "on garden city lines." This matter was mentioned in the earlier part of this chapter, and though many housing and estate development schemes in most countries of the world may quite properly be regarded as owing something to garden city ideas, the indiscriminate use of the above-mentioned phrase is not desirable, for, as the survey we have just made has shown, the real significance of the garden city is markedly absent from them. The association of the principle of "twelve houses to the acre" with the garden city accounts, perhaps, for a good deal of the incorrect use of the term "garden city." Many people think that to lay out a site with ample garden space is to plan on "garden city lines." Indeed, it is probable that town-planners themselves have been too much inclined to accept the principle of open development, without giving sufficient attention to the effect of such development upon the size and structure of towns. Some recent characteristic remarks of Dr. I. G. Gibbon of the Ministry of Health have some force in this connection. He says:

> I confess that at times I become a little weary of the constant harping on so-called "development on garden city lines"; it is a green cloak for so much ignorance and flabby thought. I am almost persuaded that one of the dangers which confronts town-planning at the present time is this loose talk of "garden city development." I do not wish to be misunderstood. I have keen sympathy with the ideals of those who are pressing for the development of garden cities and who know of what they are talking; but little sympathy with those (and indeed they easily become a nuisance) who think that the one end of town-planning is to obtain housing development on what they are pleased to call "garden city lines."[1]

Fortunately it is possible to show in concrete form the real meaning of garden cities. It is to the credit of England that it possesses, so far, the two schemes in the world that embody the full conception of garden city or satellite town building; and to a description of these garden cities we now come.

[1] *Garden Cities and Town Planning* (December 1924), p. 253.

# PART II

## LETCHWORTH, THE FIRST GARDEN CITY

# LETCHWORTH, THE FIRST GARDEN CITY

## CHAPTER I

### ITS ESTABLISHMENT AND GROWTH

The idea of acquiring from the outset not only the site of a town but the country immediately surrounding it, so that the town may never unduly expand and may retain its rural surroundings, while the need for expansion is met by the grouping together of similar settlements.—Sir Ralph Neville (1904).

§ 1

LETCHWORTH, the first garden city, was established to give effect to the proposal for a new kind of town described by Mr. Ebenezer Howard in his book *To-morrow*, of which an account has already been given. There were elements in Mr. Howard's scheme that placed it in a different category from that of the Utopias and idealist communities which have intrigued imaginative minds throughout the history of the world. The scheme had a plain, commonsense air that caused it to appeal strongly to people of very different opinions. Indeed, it may be said that the primary merit of Mr. Howard's proposal was that almost everyone could see something in it that he liked. "I have taken a leaf out of the books of each type of reformer and bound them together by a thread of practicability," said Mr. Howard; and it was true. The Socialist liked it because of its semi-municipal character, and at the beginning of the century Socialism on its practical side was strongly pro-municipal; the Conservative because it promised a way in which private enterprise could help to solve the housing question; the Liberal because it was a project of land reform. People of every shade of political thought, and of every state of society, readily gave it support. A manifesto issued in 1902 sets forth the main features of the proposal as it was then conceived.

The exodus of the people from the country, and the consequent overcrowding in the towns, with its attendant physical and moral evils, occupies the attention of all who are interested in social reform. The future of Great Britain depends on the solution of this great problem. It cannot be effectively dealt with in existing towns owing to the high price of land, the value of which increases in proportion as better facilities and improved sanitary conditions are provided.

The problem is so acute that the Public Health Acts cannot be enforced in certain slum areas, even though the general health of the people is involved.

Agricultural depression has become chronic in the rural districts, our industrial supremacy is being threatened, and the vigour of the race is being impaired.

Legislation is required, but the problem is too urgent to wait, and while waiting something may be done not only to provide an instalment of reform, but also to show the way for future Acts of Parliament; how to alter the economic conditions so that the people may be induced to go "back to the land," so that agriculture may be brought nearer the home markets, and attract more capital; so that factory life may not involve disease, degeneration, and early death; so that the vast wealth accumulating in the pockets of private landowners, as a result of the collective activities of the people, may be diverted into the proper channels, and used for the uplifting of the people as a whole, so that intemperance may not be, as in many cases it is, the direct result of environment, is the problem of to-day, which the creation of garden cities will help to solve.

The garden city project is not merely an æsthetic idea to provide gardens, nor to force better habits on the people.

It is an attempt to secure justice for the people by constitutional means, by diverting the increment of value attached to the land into the pockets of those who create that value. It will help them to educate themselves. It is an experiment of the first magnitude in effective social reform.

It is not a Utopian dream, delightful in theory but unworkable in practice.

It is a practical scheme, which in some of its most important bearings has been successfully tried, and has a sound financial basis, resting upon the increase in the value of the land caused by an influx of population.

It is not an attempt to create an artificial movement among manufacturers to migrate into country districts.

It is an effort to direct and accelerate the migration which has already begun on a very extensive scale in all parts of the country.

The building of the first garden city will be begun as soon as a suitable estate can be acquired. The land will be purchased at agricultural prices, and the town laid out section by section on a premeditated plan, by the aid of manufacturers and others who agree to take sites. Each house will stand in its own garden, and the town will be surrounded by a permanent belt of agricultural land. The necessary capital will receive a limited return, and the balance of the increment would be applied for the benefit of the community.

The characteristic feature of the scheme was that it combined private enterprise with public interests. The increment of land value was its financial basis. That land purchased at agricultural value would be given urban value by the establishment of a town upon it was something that people could understand, and that the increased value should be used for public purposes was a proposition that appealed to the sense of fairness in the average man; it violated no political or economic principles, and had no opponents.

The factor, however, that commended the scheme most strongly to the largest number of people was that it was put forward as an endeavour to relieve the overcrowding of the towns and to re-populate the countryside. The late Professor Alfred Marshall, the economist, regarded the garden city for that reason as eminently practicable. Among the large

number of eminent and well-known people who applauded the idea were Mr. Bernard Shaw, who said that "nothing private enterprise can do appears to me more likely to succeed than this idea of organising new cities," and Mr. A. J. Balfour (as he then was), who expressed his "agreement with those who think that much is gained by the migration of industries from overcrowded cities to rural, or comparatively rural, districts."

The object-lessons of Mr. W. H. Lever (now Lord Leverhulme) at Port Sunlight, and the late Mr. George Cadbury at Bournville, were much in the public eye at the time; they demonstrated the complete feasibility of establishing factories and an industrial population successfully in rural or semi-rural districts, and the powerful support given to the project by these two influential leaders of industry gave it valuable standing. It was, in short, agreed to be an essentially practicable proposal, and though the details of it were open to discussion it arrested attention by its obvious common-sense.

## §2

In July 1902, then, after the ways and means of giving effect to Mr. Howard's scheme had received a good deal of consideration, a company was formed under the Companies Acts, with the title of The Garden City Pioneer Company Ltd., to investigate sites and to take the preliminary steps for the establishment of the first garden city. This company had a share capital of £20,000. It was not proposed to pay any dividend on the shares, but the shareholders were to receive shares in the ultimate company equal to the amount of their holdings, plus interest at the rate of 4 per cent. per annum. A prospectus was issued in the ordinary way, and the share capital was very quickly subscribed by persons interested, among whom was the late Lord Northcliffe, who offered free advertising space in the financial columns of the *Daily Mail*. Within a year the Pioneer Company had entered into contracts for the purchase of the properties that made up the future Letchworth estate, and in September 1903 the First Garden City Ltd. was formed to complete the contracts and to establish the town.

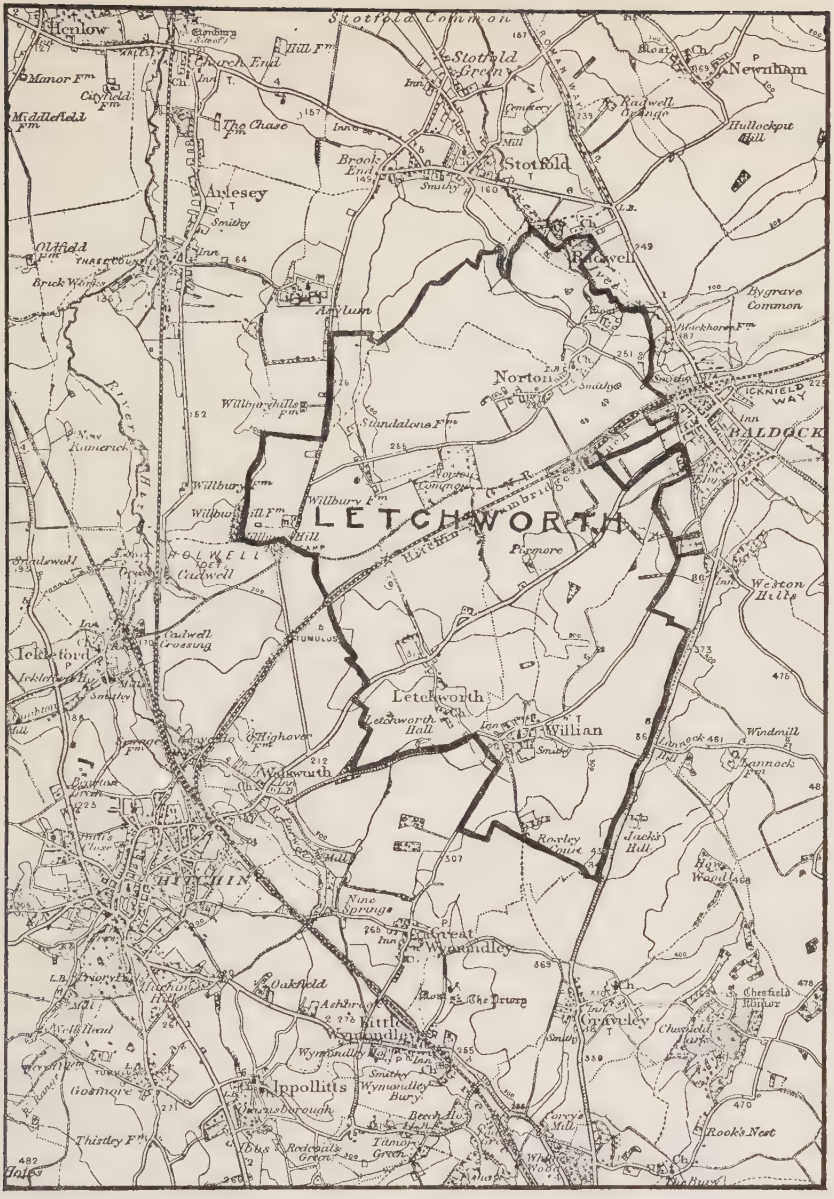
## §3

First Garden City Ltd. was incorporated under the Companies Acts, and had an authorised share capital of £300,000.[1] The object of the company as expressed in its memorandum of association was:

> To promote and further the distribution of the industrial population upon the land upon the lines suggested in Mr. Ebenezer Howard's book entitled *Garden Cities of To-morrow* . . . and to form a garden city, that is to say, a town or settlement for agricultural, industrial, commercial and residential purposes, or any of them, in accordance with Mr. Howard's scheme or any modification thereof.

The property purchased by the company consisted of 3822 acres, obtained by private treaty from fifteen different owners for £152,751, and costing, after payment of legal expenses, etc., and the costs of the Pioneer Company, a total of £160,378, or an average of £42 per acre. The estate was 34½ miles from London on the Great Northern Railway branch line to Cambridge, which bisected the estate diagonally from south-west to north-east. The old market town of Hitchin was 1½ miles from the western boundary, and the little town of Baldock adjoined it on the east. The village of Letchworth consisted of twelve cottages, a manor-house (partly disused), a church and rectory, and a population of about 50; it was so very small that it did not contain an inn or a post-office or a shop of any kind. The area of the parish was nearly one-third of the whole property. The estate also included Norton village, consisting of a few cottages and farm-houses with a vicarage, a church, an inn, and a population of about 200; part of the village of Willian on the south, which had a population of about 200; and a small part of the village of Radwell on the extreme north-east. All the villages were on the outskirts, the centre of the estate, through which ran the railway, being entirely devoid of buildings; it consisted of gently undulating land, practically all of it under cultivation, about 300 feet above sea-level. The estate sloped away from the centre in every direction, giving at various points very fine views towards the south-west, west and north-east. There was no great amount of timber, and the estate possessed few attractive natural features; but a piece of common land of about seventy acres just north of the railway, near the centre, relieved what would otherwise have been a rather monotonous piece of country, though characteristic of Northern Hertfordshire.

[1] See Appendix A for an account of the directors and officials of the company.




THE GARDEN CITY ESTATE AND THE SURROUNDING COUNTRY IN 1903

The area marked on this map includes that of the additional land, to the south of Willian, purchased in 1912.

*Reproduced with slight alterations from the Ordnance Survey Map, with the sanction of the Controller of H.M. Stationery Office.*

The prospectus explained the objects of the new company as follows:

The company has been formed to develop an estate of about 3800 acres, between Hitchin and Baldock, on the lines suggested by Mr. Ebenezer Howard in his book entitled *Garden Cities of To-morrow*, with any necessary modifications. It is believed the result will be not only to promote a great social improvement, but to provide for those who can afford to wait an investment which will prove a sound one.

The *root* idea of Mr. Howard's book is to deal at once with the two vital questions of *overcrowding* in our towns and the *depopulation* of our rural districts, and to thereby reduce the congestion of population in the great towns, or at least arrest its progress.

The difficulties of dealing with the housing question in our overcrowded industrial centres become increasingly apparent with every fresh attempt at amendment. The expense is enormous, while improvement in one direction frequently increases the evil in another. The only satisfactory way out of the difficulty is to start afresh and establish a new town to which those manufacturers whose businesses admit of such removal may go. For this purpose the company have acquired a site within thirty-five miles of London, admirably adapted for the purpose of industrial and residential development. . . .

The company, however, do not propose to develop the estate upon the ordinary lines. The exceptional features of this scheme are that the town is to be limited to a population of about 30,000 inhabitants, that the greater proportion of the estate is to be retained for agricultural purposes, and that the dividends to shareholders are to be limited to a cumulative dividend of five per cent. per annum. In the event of a winding-up, the shareholders would be entitled to no more than a return of their capital with a bonus not exceeding ten per cent. plus any arrears of dividend. The advantages anticipated from this new departure in the development of a building estate are: Firstly, the provision of hygienic conditions of life for a considerable working population. Secondly, the stimulation of agriculture by bringing a market to the farmer's door. Thirdly, the relief of the tedium of agricultural life by accessibility to a large town. Fourthly, that the inhabitants will have the satisfaction of knowing that the increment of value of the land created by themselves will be devoted to their own benefit.

The control of the site of a town from its commencement obviously offers an unparalleled opportunity for the provision of open spaces and allotments while land is cheap, and also for the supply of power, light, and water on advantageous terms. . . .

In the face of physical degeneration, the existence of which in our great towns is incontrovertible, imperialism abroad and progress at home seem alike an empty mockery. Sound physical condition is surely the foundation of all human development, and the directors submit to the public a scheme for securing it in a particular instance which they believe to contain all the elements of success, and which, if carried to a successful issue, will lead to that re-distribution of the people upon the land, in which, and in which alone, as they believe, is to be found a solution of the problem—How to maintain and increase industrial efficiency without impairing the national physique. . . .

## §4

The first steps taken by the company were to get the estate surveyed for water and drainage and to prepare the town-plan. This work proceeded contemporaneously; for although the engineering schemes and the town-plan depended finally upon the contour survey, the study of the general conditions of the estate was sufficient for the preliminary outlines, so that the schemes were quickly finished following on the

completion of the survey. An ample water supply was proved, and it was found possible to drain practically the whole of the central part of the estate by gravitation. Mr. H. H. Humphreys prepared the contour-plan, the late Mr. G. R. Strachan the water and drainage schemes, and Messrs. Parker and Unwin the town-plan.

While this work was proceeding an office was opened on the estate, first in a cottage and afterwards in a new semi-permanent building, to deal with enquiries and to accommodate the technical staff, and negotiations were opened with the railway company for the construction of a station and a service of trains. Rough platforms had been put up by the railway company for the use of visitors travelling by the special trains on the occasion of the formal opening of the estate in October 1903, and later on these became the first Letchworth railway station. At that time there was no road access to the station site, in the centre of the estate, and the first business of the company was to make up an old farm track, now known as Spring Road, and construct a new road, Broadwater Avenue, to the new station. The railway company wanted the station to be in a slight cutting just west of Spring Road, with the goods yard on the down side north of the line and the factory area to the north-east of this site. This would have put the station almost on the western boundary of the estate, towards Hitchin, and would, of course, have altered the whole form of the town from what it is now. An interesting speculation may be indulged in (it would provide a capital paper for a town-planning examination) of how the town might have developed and what changes in the plan would have been required had this proposal been carried out. It would have been a practicable scheme, the chief disadvantage being that the town centre would have had to be some distance from the station, and the station would have lost the accessibility which its present central position gives it. On the whole, the projected site may be regarded as possessing more disadvantages than advantages, except perhaps from a merely railway point of view. This matter will be further discussed when we come to consider the town-plan. The railway company made the temporary station on the site first chosen for it, and a service of trains was given in 1905. Development of the town, however, was started before the station was opened. There was a demand for houses and sites from people who had been interested in the garden city movement and had waited for the opportunity of living in such a town. The place attracted many people because of its novelty, and before very long it had acquired somehow or other

the reputation of being a home for cranks. That reputation was never deserved. The people of the ancient town of Hitchin, which was proud at that date to be known as "Sleepy Hollow," looked upon the inhabitants of the new garden city with amazement, and scoffed at the idea of a neighbouring town being started that should become three times its size. The whole conception of a garden city was fantastic to them. The publicity that the scheme received drew the attention of London journalists who came to see what queer thing was arising in Hertfordshire. The houses were of a kind new to most people then, though familiar enough to everyone to-day, and the red roofs and white roughcast walls, the green paint and water-butts, were material for comic papers. It is strange to look back upon that time and see how everything that was new and curious then is commonplace to-day. The evidences of crankiness at Letchworth were journalistic inventions, with no real foundation. The town was new, the people who had come to it wanted to make something new of their community, they were conscious of their opportunities and sought to take advantage of them, that is all that can be said. It is a pity that the town got such a name so early, for it scared the promoters of the scheme, and a tendency to discourage anything out of the ordinary grew up, so that adventurousness, experiment and enterprise seemed to stand at a certain discount.

§5

The official name of the town was settled at an early stage. The directors of the company decided to appeal to the shareholders upon the matter as the people most interested, and a vote was taken which resulted in the name Letchworth (Garden City) being adopted. This was a sensible choice, for the major part of the town was in the parish of Letchworth, while the whole of that parish was comprised in the estate, and the addition of the words Garden City made the name descriptive of the scheme. The words in brackets are, however, now seldom used.

§6

The method adopted by the company in the development of the estate was to provide roads, water, drainage and other public services, lay out the building plots and lease them. The waterworks were started

and the first mains laid in 1904, the sewerage system was put in hand at the same time, and the roads now known as Norton Way, Station Road, Ridge Road, Works Road and Leys Avenue were constructed. The first building took place on the existing county road from Hitchin to Baldock, which ran through the estate parallel with the railway. Until the station was opened for traffic the people who had to travel to London used Hitchin Station, and the Garden City Company ran a horse omnibus to connect with the trains.

The detailed site-planning was done by the company's officials in consultation with the architects. Houses were built by individuals for their own use, or as an investment, or by builders for sale. The company did no building, and, apart from workmen's cottages, provided no special facilities for building. A number of small builders was attracted to the town in the early stages of its development, who undertook contracts and when not otherwise engaged put up one or two houses at a time on their own account; but no financial encouragement was offered to speculative builders to embark on large schemes. An enterprising firm did indeed secure land for cheap bungalows, and did very well out of them, though there was a good deal of well-deserved criticism of their operations.

That building should start on the old roads and in the existing villages was partly a matter of necessity and partly a deliberate plan. The roads being there had to be used, and it was the architects' idea that building should begin away from the centre, leaving that part of the town to be done last. The result was to scatter the development, and this has been regarded as a mistake. It would have been more economical, it has been urged, to have developed south of the railway and not to have touched the northern area for some time. There can be no doubt that compactness in a development programme is desirable; but other factors have to be borne in mind. For instance, while it is possible to concentrate development when the building is all of one sort (and indeed under such circumstances no other course would be wise), when sites have to be found for small and large houses, workmen's cottages, factories, workshops, shops and small-holdings, the sites are bound to be scattered. In the opinion of the present writer it would have been impracticable to have concentrated development to the south of the railway, leaving the Norton area alone. Norton was too important a village to be isolated, and the road running through the estate for nearly two miles from Wilbury through Norton to Baldock.

with its connections to Stotfold and Bedford, was too valuable to be left unused. It is extremely doubtful if, except for one or two outlying plots which involved undue outlay, it could be shown that any economy would have been effected by a different course of development from that actually followed by the company, though it is no doubt true that too many vacant plots were allowed to remain on developed roads.

The policy of building near the outskirts, working towards the centre, was undoubtedly wise; for though it left the central area bare (much of it is still empty), it gave the opportunity for well-considered building there and a better class of building than the first small population could afford.

§ 7

A feature of Letchworth houses is that a large proportion are owned by the occupiers. Some years ago the writer estimated that more than fifty per cent. of the houses were owned by people who lived in them, and, excluding the working classes, that proportion has probably since increased. A hundred persons have availed themselves of the facilities provided by the council for borrowing for the purchase of houses under the Small Dwellings Acquisition Act, a number which, though small in itself, is exceeded in only one town in England. The number of the borrowers under this Act is increasing and many of them are working people.

Among the architects who have worked in the town are Mr. Raymond Unwin, Mr. Barry Parker, Mr. H. N. Baillie Scott, Mr. Charles Spooner, Mr. Halsey Ricardo, Mr. Geoffrey Lucas, Mr. C. Harrison Townsend, Mr. Allen Foxley, Mr. C. M. Crickmer, Mr. H. Clapham Lander, Messrs. Bennett and Bidwell, Mr. C. H. Hignett, Mr. W. H. Cowlishaw, and Mr. P. Morley Horder.

§ 8

One of the most interesting domestic buildings is Homesgarth, a co-operative housekeeping enterprise, started by Mr. Ebenezer Howard in 1909. It consists of a group of houses and flats forming a quadrangle, with a common dining-room and service. The undertaking is conducted by Letchworth Co-operative Houses Ltd.

Another interesting scheme on somewhat similar lines, but without the large central organisation, is Meadow Way Green, a group of

PLATE IX.

*Photo by Maurice Adams.*

EBENEZER HOWARD, THE ORIGINATOR OF THE GARDEN CITY

*Crickmer & Foxley, Architects.*

LETCHWORTH: SOUTH VIEW

*Crickmer & Foxley, Architects.*

LETCHWORTH: SOUTH PLACE

co-operative houses built by the Howard Cottage Society Ltd. in 1915 and since extended. The original scheme consisted of nine cottages and one flat forming a half-quadrangle, the intention being to build the remaining half later. Each cottage and flat has a living-room, scullery, bathroom and w.c., six cottages have two bedrooms, two have four, and the flat has two. The average net rent is 11*s.* 7*d.* per week, the gross rent (including rates) being 14*s.* 1*d.*; originally the gross rents were 10*s.* 5*d.* There is a common dining-room and kitchen, the charge for which is included in the rents. There are service charges amounting to 2*s.* 6*d.* per week and 8*d.* per week for upkeep of the garden. Mid-day dinner only is provided co-operatively, the present cost being 1*s.* 2*d.* each person. The staff consists of a woman who comes in daily to cook and wash up, with the services of a charwoman one day a week. The administration is in the hands of a committee composed of the whole of the tenants, who themselves fix prices and exercise general control, each lady tenant in turn being responsible for the catering for a period of two weeks. The full committee meets monthly. There is no central heating, each cottage and flat having its own hot-water system. The furnishing of the common dining-room and kitchen is provided by the Howard Cottage Society Ltd. and a charge of 15 per cent. upon the outlay is included in the service charge. Tenants are interviewed and selected by representatives of the tenants' committee.

The scheme has certainly met a definite need, and its facilities are likely to be in increasing demand owing to the difficulty of obtaining domestic help on the one hand and the shrinkage of middle-class incomes on the other. There can be no hesitation in saying that it has been eminently successful, so much so that the society has recently erected the second half of the quadrangle, consisting of four cottages and nine flats. Of these buildings two cottages and one flat have three bedrooms, and two cottages and eight flats have two bedrooms. All have living-room, scullery, bathroom and w.c. The average net rentals of the new buildings is 19*s.*, the higher rent being due to the increased cost of building. The new section has its own common dining-room and kitchen and its own committee of management.

## §9

Among the objects with which Letchworth was established, the primary one was to provide better living conditions for working people than could be found in the old cities. Therefore the cottages of the workers are properly one of the leading features of the town. Until the war these cottages were built by private enterprise; so that Letchworth contained up to 1914 noteworthy examples of working-class houses of excellent types which were rented on an economic basis. Very soon after the scheme was started, in 1904, the Garden City Company itself built a group of eight workmen's cottages for their own men. These cottages cost just over £200 each, and were let at 5*s*. 6*d*. a week including rates. They were designed by a local architect and were pleasing in appearance; but though a great effort was made to build them cheaply, it was clear that the working classes could not be housed in the town at such a cost. The Cheap Cottages Exhibition (organised by Mr. J. St. Loe Strachey) followed in 1905, when experiments were made by architects and builders and others in a large variety of materials and methods of construction—steel, concrete, wood, brick and various patent substances. One hundred and twenty-one cottages were built in connection with the exhibition; the prize cottage was built of brick and tiled, and cost £150. Although the exhibition was concerned with the country cottage type of building rather than the housing of industrial workers, its object appealed to the company because it had become obvious that a cheaper method of building would have to be adopted than had hitherto existed if well-designed houses were to be built for workmen at rents which they could pay. The exhibition was certainly successful in showing that it was possible to build a good cottage cheaply, and it gave a powerful impetus to the better planning and the reduction of the cost of the small cottage throughout the whole country, and not least in Letchworth.

In 1905 the Heatly-Gresham Engineering Company Ltd. and the Garden City Press Ltd. established the first industries in the town; these works were soon followed by other small factories and by some rather larger ones in the printing and bookbinding trades. These gave Letchworth its real start and established at a very early date its industrial character. With their advent the demand for working-class houses began to take on a serious aspect. An industrial and provident society—the Garden City Tenants Ltd.—had already been formed to build some

*Crickmer & Foxley, Architects.*

LETCHWORTH: PRE-WAR WORKMEN'S HOUSES (1908) IN COMMON VIEW

*Crickmer & Foxley, Architects.*

LETCHWORTH: PRE-WAR WORKMEN'S HOUSES (1908) IN COMMON VIEW

*Bennett & Bidwell, Architects.*

LETCHWORTH: WORKMEN'S HOUSES BUILT BY A PUBLIC UTILITY SOCIETY (1913)

*Parker & Unwin, and C. M. Crickmer, Architects.*

LETCHWORTH: WORKMEN'S HOUSES BUILT BY A PUBLIC UTILITY SOCIETY (1913)

cottages on a co-partnership basis for the workers in the Garden City Press (a co-partnership printing enterprise); this society was used to supply the demand for houses and became one of the first public utility housing societies in the country (though it did not maintain its co-partnership basis); it built in the course of several years over 300 houses, all of which were let to tenants at pre-war rents of 4*s.* 6*d.* to 16*s.* 6*d.* per week, exclusive of rates. The demand for workmen's cottages being not fully met, the Garden City Company itself promoted a company, called Letchworth Cottages and Buildings Ltd., for the purpose. The capital of this company was subject to a dividend of 4 per cent., guaranteed by the parent company. The cottages were let at rents of from 4*s.* 3*d.* to 6*s.* 9*d.* per week, inclusive of rates. After the passing of the Housing Act of 1909, which enabled loans to be granted on special terms to public utility societies, other societies were formed to take advantage of these loans and to build the cottages for which there was a constant demand. Before the war the average cost of a cottage at Letchworth containing living-room, scullery, and three bedrooms, including drainage, fencing, etc., complete (everything except the land), was a little over £150, and it was let at a rent including rates of 5*s.* 6*d.* per week. A cottage with a parlour was let at about 1*s.* per week more. At these rents an average of 4 per cent. was paid on capital, a proportion of the money being borrowed from the Public Works Loan Board at 3½ per cent. Even at these rents the lowest-paid labourer could not be housed, and as the garden city was intended for all classes of the community, the poor as well as the well-paid workman, there was a strong desire to build cottages that the very poorest labourer could afford to rent. The Garden City Company's subsidiary cottage company did what it could, but could not borrow money on such favourable terms as the local authority, so that the district council was induced experimentally to build four cottages at a total cost of £560 for the four, which were let at 4*s.* 6*d.* per week each, including rates, and showed a small balance in favour of the council. This was possible because the local authority could borrow the whole of the capital cost for a period up to sixty years; while a public utility society could only borrow up to two-thirds of the valuation of the cottages built (and valuation was invariably under cost) for a period not exceeding forty years. The district council afterwards built a further six small cottages, and later on a scheme of 100.

The concentrated attention to cottage building which took place at

Letchworth from 1905 until the war made further building impossible meant that the town was not only well equipped for cottages, but also that it knew how to get them, what they ought to cost, and how they should be planned. So that after the war, when the Coalition Government's Housing Act was passed, the local authority was ready with its plans for building, and was one of the first public authorities in the country to have its housing scheme approved. The first post-war cottages at Letchworth were better planned, better built, larger, and in almost every way superior to the pre-war houses. That was because cost was a minor factor in the new municipal houses, while the pre-war houses were built with the closest economy; every pound was carefully considered in connection with the latter, and all but bare essentials were rigorously cut out of them. Only on those terms could they have been built at all. Moreover, the cottage societies had to contend with a steady rise in the cost of building. Within the ten years before the war there was something like a 15 per cent. increase, due to the rising prices of building materials, so that the £150 cottage was approaching a cost of £170. This rising cost had to be met, which meant rigorous attention to economy in every direction. A man who gave much of his life to the study of economy in building healthy cottages in Letchworth was the late H. D. Pearsall; and the results of his work will always remain in the town, and their influence will be felt wherever working-class housing is carried out on an economical basis.

The number of cottages built by the societies in Letchworth prior to the war was:

| | |
|---|---|
| Garden City Tenants, Ltd. | 305 |
| Letchworth Cottages and Buildings, Ltd. | 193 |
| Howard Cottage Society, Ltd. | 397 |
| National Cottage Society, Ltd. | 65 |
| Norton Cottage Society, Ltd. | 6 |
| Letchworth Housing Society, Ltd. | 94 |
| | 1060 |

It is a matter for keen regret that the work done by these public utility housing societies, the experience they had gained and the practice of economical working to which they were accustomed, were not utilised in connection with the national housing scheme after the war.[1]

[1] There were societies elsewhere than in Letchworth doing equally valuable work; but unfortunately some societies (not in Letchworth) had been badly conducted and others were not in good repute. The Government did not take them seriously, and though provision was made for them in the Housing Act, the conditions of building in 1919 and 1920, and the more favourable financial assistance given to local authorities, made it impossible for them to operate. The majority of the societies formed throughout the

PLATE XIII.

*Parker & Unwin, Architects.*

LETCHWORTH: WORKMEN'S HOUSES BUILT BY A PUBLIC UTILITY SOCIETY (1906)

*C. M. Crickmer, Architect.*

LETCHWORTH: LYTTON AVENUE, WORKMEN'S HOUSES BUILT BY A PUBLIC UTILITY SOCIETY (1907)

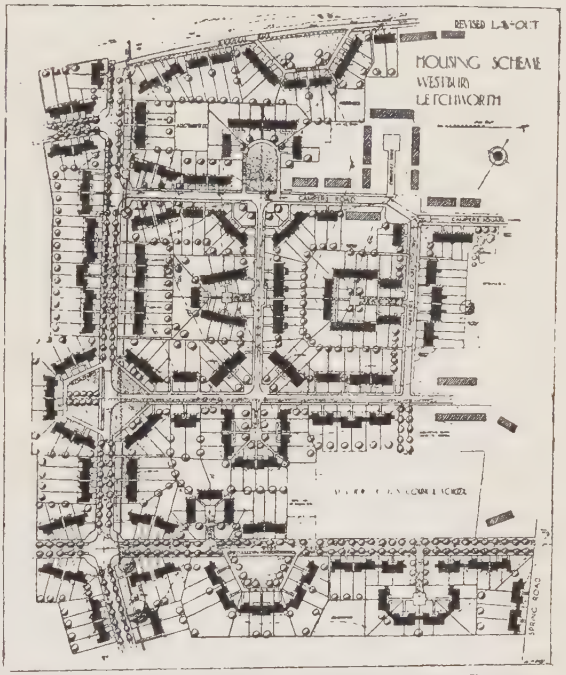
*Bennett & Bidwell, Architects.*

LETCHWORTH: THE DISTRICT COUNCIL'S HOUSING SCHEME (1919–1920)

*Crickmer & Foxley, Architects.*

LETCHWORTH: THE DISTRICT COUNCIL'S HOUSING SCHEME (1919–1921)

Before Letchworth started, the amount of attention given to cottage planning by architects had been exceedingly slight. At Bournville and Port Sunlight the cottages were designed by architects, but not, at that date, for building on a commercial basis. So far as architects had taken up cottage building at all, it was in association with the country house. The mass of the working classes were housed in the products of the speculative builder, and very few houses, apart from tenement houses built for the working classes, were designed by architects at all. Indeed, it was not considered worth while for architects to bother with such work. Mr. Raymond Unwin was among the first to show the bad results of leaving the workers' cottages entirely to the builder and land speculator, and he had been advocating for some time the desirability of planning cottages to secure the maximum of sunlight and air. Letchworth became, therefore, after the exhibition of 1905, a centre for the intensive study of cottage planning by architects, and many of the men who later on gained national reputations for their work as cottage planners gained their experience as young men at Letchworth. The standard of building of workmen's cottages throughout the country has now undoubtedly reached a high level; when building began at Letchworth no such standard existed, and the town may therefore be regarded as the place above all others in which a

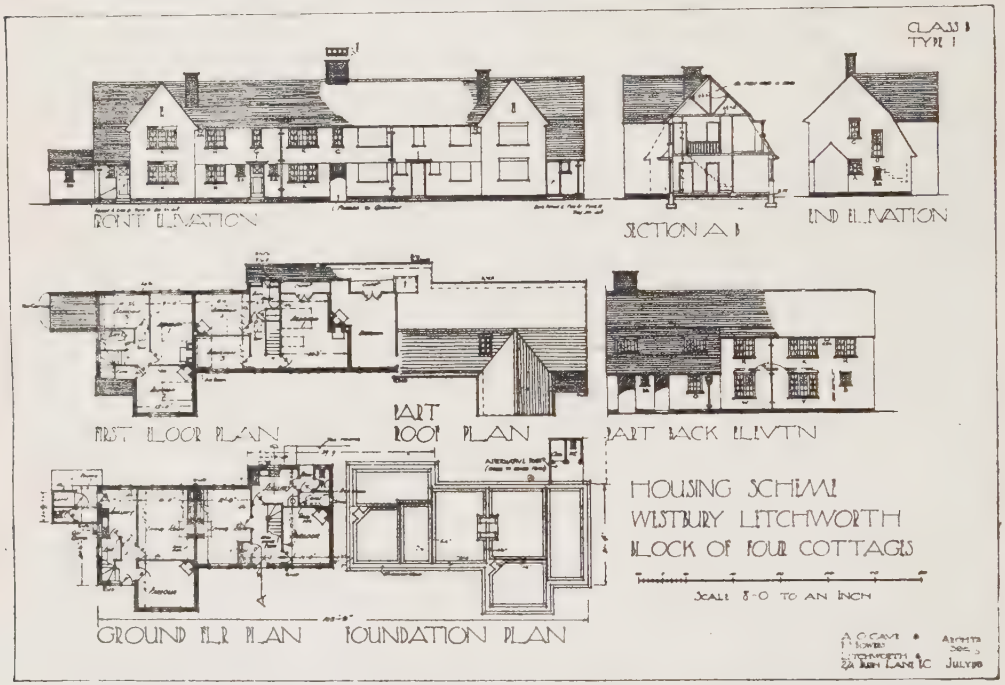



LAY-OUT OF PART OF THE LETCHWORTH URBAN DISTRICT COUNCIL'S HOUSING SCHEME UNDER THE HOUSING ACT, 1919

*A. O. Cave and R. S. Bowers, Architects.*

country to undertake post-war building got into an unsound financial state. The neglect of public utility societies by the Government and by the municipalities (which still continues, even though a more settled condition of things now exists than was present in 1919 and 1920) may probably be regarded in time to come as one of the serious shortcomings in our national housing policy. The societies had proved what they could do before the war, and had the Ministers responsible for housing known what they should have known about them it should not have been impossible to devise a method of using them. At Letchworth the societies were cautious; they knew that they could not build successfully on the terms offered to them, and none of them built until times improved.

persistent attempt was made to reach the economical cottage that would provide decent accommodation for the worker's family, and would still yield a reasonable return on the capital invested in it. That attempt was successful until the war put a stop to it. There are those who think, and the present writer is among them, that the conditions that exist in a garden city are such as to give the brightest hope of renewing that




Letchworth Urban District Council's Housing Scheme under the Housing Act, 1919
*A. O. Cave and R. S. Bowers, Architects.*

attempt, and of bringing cottage building back once more to a reasonable economic basis.

The total number of cottages built by the district council under the 1919 Housing Act from 1919 to 1922 was 707, a further 48 were built under the Housing Act, 1923, and a scheme for 178 is in hand. Unfortunately it is not possible to give the costs of the cottages included in the large scheme, but they were hign, like all building at the time. The rents at which they are let are as follows: non-parlour, three bedroom cottage, from 7*s*. 3*d*. to 8*s*. 6*d*. per week; non-parlour, four bedroom cottage, 8*s*. per week; parlour cottage with three bedrooms, from

*Bennett & Bidwell, Architects.*

LETCHWORTH: THE DISTRICT COUNCIL'S HOUSING SCHEME (1919–1920)

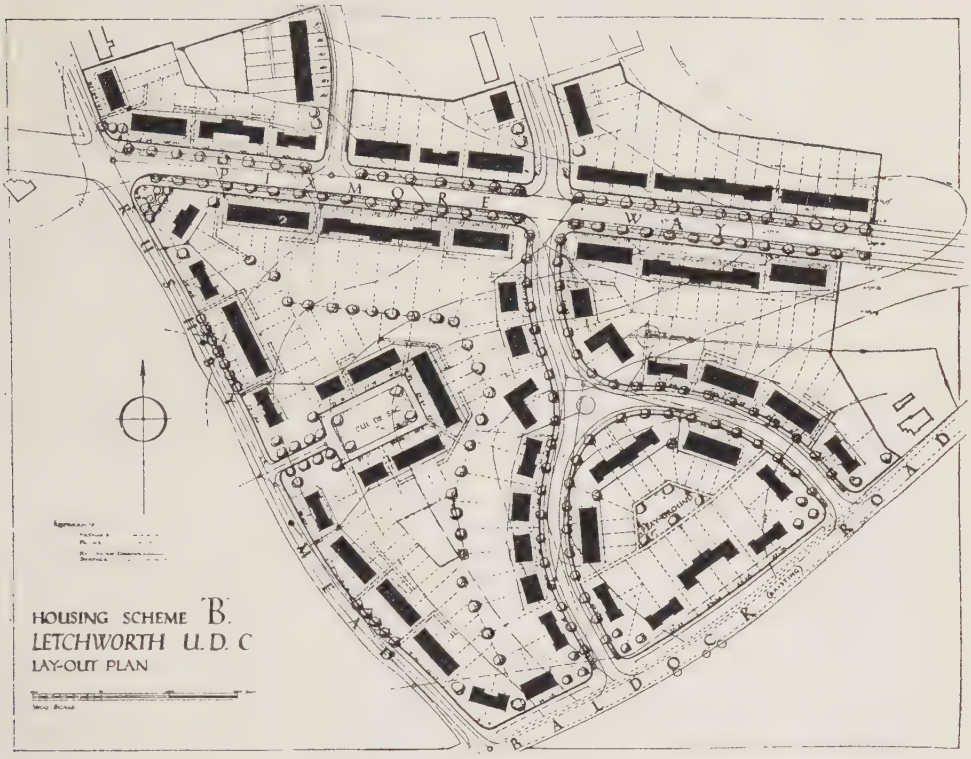
*Crickmer & Foxley, Architects.*

LETCHWORTH: THE DISTRICT COUNCIL'S HOUSING SCHEME (1919–1921)

LETCHWORTH: PIXMORE WAY

LETCHWORTH: PIXMORE WAY

10*s.* to 12*s.* 6*d.* per week; parlour cottage with four bedrooms, from 11*s.* 9*d.* to 13*s.* 6*d.* per week. The rents rise by 3*d.* stages, and vary according to type, position and size of garden; they are exclusive of rates. No two-bedroomed cottages were built. The 48 cottages built under the 1923 Act cost £404 inclusive, and are let at a rent of 8*s.* 6*d.* per week each.




LAY-OUT UNDER THE HOUSING ACT, 1919
*Crickmer and Foxley, Architects.*

The council has given no subsidies to private builders under the 1923 Act, but has made grants to one public utility society for building seven flats and six cottages, and to another for building twenty flats.

The management of workmen's cottages has received a good deal of attention at Letchworth and deserves a word. The cottage societies do their own collection of rents and management. Some of them have combined their administration and employ their own workmen for small repairs, engaging contractors for large periodical re-decorations. Prizes of allowances from the rent are given for regular payment of rent, the

good maintenance of the property, and the upkeep of the gardens. The urban district council manages its own cottages on very much the same lines as the cottage societies, but the whole of the repairs is done by jobbing builders.

It will be observed that a large number of cottages in Letchworth are now owned by the district council,[1] and as the council is prepared to build as rapidly as its resources will permit there is a possibility of the greater number of the inhabitants being tenants of the council. It does not require much imagination to foresee the possibility of the rents and conditions of tenancy of the council's houses becoming a leading question in local politics, overshadowing perhaps all other issues, and there are many people in the town who view such an eventuality with apprehension. Unfortunately there does not seem at present much prospect of the public utility societies being able to do much building, and in any event the council has an advantage over such societies, being able to raise money on much more favourable terms. This question is likely to become of considerable importance within a few years, and those interested in the future of the town will need to give it serious attention.

§ 10

The Letchworth estate was originally situated, as we have said, mainly in three parishes, Letchworth, Norton and Willian. Practically the whole of the first two parishes were comprised within the estate, and about half of the parish of Willian was within it. Small portions of other parishes, Radwell, Great Wymondley and Stotfold, were also included. The estate was within the county of Hertford, except for two very small areas in the county of Bedford. The local government of the area was in the hands of the three parish meetings of Letchworth, Norton and Willian, and the Hitchin Rural District Council, on which each of the three parishes had one member. For some years, owing to the slow operation of the registration laws at that date, there were very few of the new inhabitants with any voting power, and the three parish meetings were not in any event a practicable means of local government. A residents' council was therefore created, which, with no real powers or duties, served as some means of organisation for the new community. In 1907, on application being made to the county council, the Local Government

[1] The numbers are: 110 built before the war, 755 built since; a total of 865 actually built and occupied at the end of 1924. The total number of houses in the town at the same date was 3064.

Board issued an order under the Local Government Act, 1888, constituting a new civil parish of Letchworth comprising practically the whole of the garden city estate. The new parish had a parish council of fifteen members and the first council was elected in 1908, the late Rt. Hon. Sir John Gorst being the first chairman. The number of representatives upon the rural district council was increased to four, and in 1909 to six. The powers of a parish council are very limited, its main duty being the lighting of the town, which was taken over from the Garden City Company; the council also adopted the Burial Acts and the Baths and Wash-houses Acts. The rural district council was concerned with scavenging and refuse disposal and the passing of plans for building under its bye-laws. Certain roads also were obligations of the district council, and these were ultimately made up and maintained by it. The development of the town threw a good deal of work upon the district council, none of the members of which, except the local representatives, had any interest in the scheme. The district council and the parish council worked helpfully together. As time passed, discussion arose with regard to making the area an urban district, but for a long time neither the Garden City Company nor the parish council itself was in favour of steps being taken to that end. The position of the town was peculiar, many of the duties of a local authority being discharged by the company, and it seemed that little would be gained by the creation of an urban authority, while a certain amount of additional expense would be thrown upon the town. The matter could not, however, be allowed to rest, for it was not reasonable that the government of the growing town should remain in the hands of an authority which had duties over a large rural area and took but a limited interest in Letchworth. It was decided in 1917, with the consent of all parties concerned, to apply to the county council, under the Local Government Act, 1888, s. 57, for the conversion of the parish into an urban district and to separate it from the area of the rural district. The new urban district was formed in 1919 and the first urban district council was then elected. An urban district council has considerable powers, practically those of a borough council, and the council became therefore an important factor in the development of Letchworth. Its principal work up to the present has been the housing schemes, which it has carried out with remarkable success (of which an account has already been given), the initiation and execution of the main sewage disposal works, main surface-water drainage, and the making up and taking over of many

private roads; but it has carried through many other projects, and is actively co-operating in, if not predominantly influencing, the improvement and growth of the town. The council is composed of men and women who take an active interest in the town as a garden city, and its part in the future of the scheme is deserving of the study of all who are interested in local government. Ultimately the council may absorb the powers and position of the Garden City Company, though for that special legislation would be necessary. The council keeps in touch with the Garden City Company by means of a committee which meets the board of directors of the company about four times a year. At these meetings any matters affecting the town are discussed. The chair is taken in turn by the chairman of the company and the chairman of the council, and the meetings are held alternately in the company's office and the council's chamber. No minute or other record of the meetings is made, the discussions are treated as being private, and no decisions are regarded as binding upon either party. The meetings have been found to work well and are said to have been of great advantage to the two bodies.

## § 11

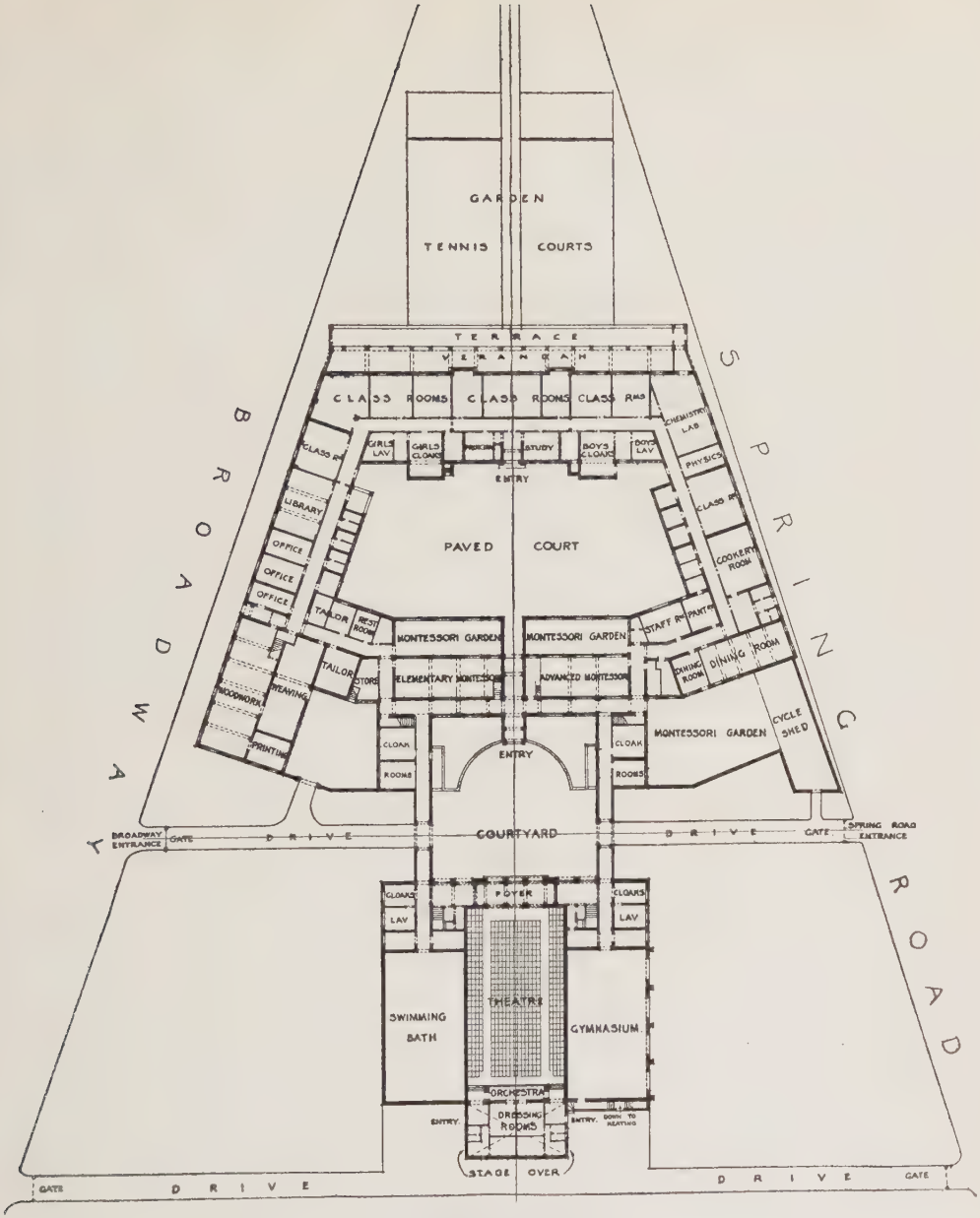
Education in the new garden city received attention before even the site was known, and an education council had been appointed to prepare a scheme for the new town. The opportunity that the town afforded of doing something new in the way of elementary education was one of which many people wished to take advantage. When the building of Letchworth started, the education council put forward a scheme for a non-provided school under the Education Act, to which all parents in the town were invited to send their children, and some part of the cost of which was to be voluntarily provided, either by the parents (to the extent that they could afford it), the town as a whole, or the interested public outside. A head-master and staff were engaged and temporary buildings secured on rental from the Garden City Company. The school was, however, not a success, for the funds could not be secured for it, and the inhabitants who were invited to contribute by means of a voluntary rate assessed on their property, would not support it. After a short time the county council erected a school building on land obtained from the Garden City Company, the staff was taken on by them, and the school transferred there. The education council did,

LETCHWORTH: NORTON WAY

LETCHWORTH: MEADOW WAY

*P. Morley Horder, F.R.I.B.A., Architect.*

ST. CHRISTOPHER SCHOOL, THEATRE VESTIBULE




ST. CHRISTOPHER SCHOOL

*P. Morley Horder, F.R.I.B.A., Architect.*

however, succeed in inducing the county council to build a better type of school than they would otherwise have done, the company assisting by giving the site for the purpose. The school as extended has a capacity for 680 children. A second school for 700 children was erected in 1913, and a third school for 408 children in 1924. An infants' school has also been established at the Pixmore Institute for 360 infants.

The first private school was established in 1905; it is now known as Arundale House, a co-education boarding-house for St. Christopher School, which is a new building on Broadway for the co-education of boys and girls up to the age of nineteen years. The school is conducted by the Theosophical Educational Trust, but it is not a theosophical school, the teachers and staff belonging to all religious denominations. Pupils may enter at the Montessori age and remain until such time as they are ready to pass to the university or to whatever professional or business training they may select. There is a training college and hostel for teachers in co-education schools, and a theatre, which is used in connection with the school but is also available for public performances. The buildings of St. Christopher's at the junction of Broadway and Spring Road form an interesting group. They are designed with a view to holding classes in the open air. The verandah facing south has class-rooms opening on to it, the flat roof of the building, commanding a wide stretch of country, is utilised for classes also. The school is considered one of the foremost pioneer schools of Europe, and hundreds of visitors come to it yearly from all parts of the world. Outside St. Christopher's are a number of other buildings associated with it.

There are several small private schools, including the Madonna School, which is a Roman Catholic school, but is attended by children of other denominations.

§ 12

The Letchworth Book Club is an institution founded primarily to enable the private libraries of the inhabitants to be made available, under certain conditions, for public use. A catalogue of all books which private owners are willing to allow other people to have the use of is kept, and by means of a system of collection the books that are required by readers are borrowed from the owners, delivered to borrowers at a central library, and afterwards returned to the owners. The book club has now premises of its own, with the nucleus of a public library, and its system of borrowing has worked admirably.

*P. Morley Horder, F.R.I.B.A., Architect.*

ST. CHRISTOPHER SCHOOL, INNER GAMES COURT (1922)

*P. Morley Horder, F.R.I.B.A., Architect.*

ST. CHRISTOPHER SCHOOL, ENTRANCE COURT (1922)

PLATE XX.

*Barry Parker, F.R.I.B.A., Architect.*

LETCHWORTH FREE CHURCH, NORTON WAY (1924)

INTERIOR OF THE LETCHWORTH FREE CHURCH (SEATING 800)

§ 13

The first church building to be erected was the Free Church in Norton Way, which was built largely by the labour of the congregation and was founded by members of all the nonconformist churches. The building was added to at various times and the new church was opened in 1924. There were existing village churches at Letchworth, Willian and Norton, and the first new Church of England was St. Michael's and All Angels. As the town is also in the parishes of Willian and Norton, new churches have been erected in these parishes. There is a Wesleyan Methodist Church (opened in 1914), a Primitive Methodist Church (opened in the same year), and a Friends' Meeting House (opened in 1907). The Catholic Church of St. Hugh in Pixmore Way was opened in 1908. There are several other buildings used for religious purposes.

§ 14

The Howard Memorial Hall was the first public hall, and was built in 1906 by subscription in memory of Mr. Ebenezer Howard's first wife. Prior to that date temporary buildings had been used for public gatherings. The Pixmore Hall (now used as a school) was opened in 1908. A kinema was opened in 1910. There are several other halls, and the Theosophical Trust has built a theatre (opened 1925). There is a Conservative Club, and the Letchworth Club (for both ladies and gentlemen). The golf club was an early institution, starting in 1905. And there are, of course, many tennis, cricket, hockey, football and other clubs. The public recreation ground, under the control of the urban district council, consists of twelve acres; and there are a number of private sports' grounds leased by the company to various clubs.

§ 15

The public health aspect of Letchworth has aroused much interest, and at one time the vital statistics were widely quoted. The writer has taken considerable trouble to investigate these figures, and has come to the conclusion that the data are not sufficiently reliable to be depended upon. The only trustworthy figures are those that have been prepared

since the office of medical officer for the parish has been in existence, and these figures are given below:

| | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 |
|---|---|---|---|---|---|---|
| Population | 9,374 | 9,748 | 10,313 | 11,500 | 12,000 | 12,692 |
| Births | 133 | 273 | 219 | 195 | 229 | 230 |
| Birth rate per 1000 pop. | 14 | 28 | 21 | 17 | 19 | 18·12 |
| Deaths | 52 | 69 | 77 | 97 | 87 | 95 |
| Death rate per 1000 pop. | 5·5 | 7·1 | 7·5 | 8·4 | 7·25 | 7·4 |
| Phthisis attack rate per 1000 pop. | — | 3·9 | 1·16 | 1·3 | 2·15 | 1·18 |
| „ death „ „ „ „ | — | 1·3 | 1·4 | ·52 | ·03 | — |
| Infant deaths | 12 | 12 | 12 | 8 | 9 | 11 |
| Infant mortality per 1000 births | 90 | 44 | 55 | 34·93 | 41·09 | 47·8 |
| Zymotic attack rate per 1000 pop. | — | — | — | 7 | 3·84 | 1·37 |
| Scarlet Fever do. do. | — | — | — | — | 1·42 | ·70 |
| Diphtheria do. do. | — | — | — | — | ·67 | ·67 |
| Measles do. do. | — | — | — | — | 1·75 | — |
| Zymotic death rate from these three diseases | — | — | — | Nil | ·083 | ·157 |

These figures justify the high reputation for health the town has always had. One effect of this reputation is that Letchworth has been recognised as an industrial town in which a better chance is offered than anywhere else in England for those who have broken down in health to carry on their work. The place has therefore attracted a certain number of people from all over the country who have come to it for that reason. The effects of the health conditions of the town are to be seen best of all in the children.[1] By means of an open-air swimming bath, open spaces and facilities for recreation of every kind it is the aim to keep up a good standard of health among the people, and the factory owners and workers have joined heartily in this. The townspeople run a well-equipped hospital on a site provided by the company.

## § 16

The licensing question has always been an acute one at Letchworth, as when the town was started the directors of the company decided to deal with the question of any new licences by means of local option. The company owned two existing licensed houses on the estate, just outside the town area, one on the south at Willian and the other on the north-east at Norton. These houses were leased to the People's Refreshment House Association, which has conducted them ever since with much success. As soon as the town began to get an industrial

[1] In Appendix C will be found extracts from a comparative report of the Medical Officer of Health for Hertfordshire on the school children of Letchworth and Hitchin.

*George Baines & Son, Architects.*

LETCHWORTH: WESLEYAN METHODIST CHURCH (1914)

*C. M. Crickmer & E. H. Heazell, Architects.*

LETCHWORTH: ST. MICHAEL'S CHURCH (1907)

*Parker & Unwin, Architects.*

LETCHWORTH: SOLLERSHOTT EAST (1910)

*H. Clapham Lander, F.R.I.B.A., Architect.*

LETCHWORTH: HOMESGARTH (1910)

population the demand for a new licensed house in the centre of the town was formulated, and keen discussion arose. The Skittles Inn was built as some attempt to meet this demand; it was a public-house in everything but the sale of alcoholic drinks, and has played a conspicuous part in Letchworth labour's social life; it did not, however, prove remunerative. In response to agitation on the matter, however, the company decided to take a vote on the question of a new licence in the summer of 1907. A voting paper was issued to every adult householder, in the case of married householders one for the husband and one for the wife, and to every lodger or other adult who had lived in the town for the previous six months. The voting papers were distributed to each person entitled to vote at his or her residence and called for after a few days. The question was "Do you vote for the establishment of a public-house licensed for the sale of alcoholic liquors near the railway station?" The result was that 631 voted "No" and 544 voted "Yes," a majority of 87 against. Polls were taken in succeeding years and the results of them all are set out below:

| | 1907 | 1908 | 1912 | 1920 | 1924 |
|---|---|---|---|---|---|
| Against a Licence . . | 631 | 834 | 1117 | 1665 | 2149 |
| For a Licence . . . | 544 | 745 | 521 | 1600 | 1532 |
| Majorities against . . . | 87 | 89 | 596 | 65 | 617 |

The last vote, taken in 1924, aroused, if possible, even more intense discussion than ever before. It was conducted by the urban district council on the Local Government Register in the same manner as ordinary elections, the expenses being paid by the Garden City Company.

Accompanying the notice of poll was a memorandum by the directors of First Garden City Limited:

At the request of First Garden City Limited, the Letchworth Urban District Council have agreed that a Poll on the question of the Licensed House in Letchworth shall be taken, and they have instructed their Clerk to act as Returning Officer.

If the result of this Poll be in favour of a Fully-licensed House in a central position in Letchworth, it is believed that premises could be obtained on the following lines, subject to the Licensing Bench.

The House would be of the best design possible, having a Hall, with small tables and provision for tea, coffee and other refreshments, as well as alcoholic drinks.

There would be no Bar solely adapted for drinking.

Such a House should provide bedroom accommodation and a Restaurant or Coffee Room where meals could be served at popular prices; a Billiard Room, and also a garden for the provision of games, the whole forming a pleasant resort for both men and women.

Should a Fully-licensed House on these lines be erected, it is obvious that as this would involve a large sum of money it would not be possible for the Directors to re-submit the question of this licence to a Poll of the Inhabitants.

As it was contended that the question had been re-opened without a definite local demand, the opponents of a new licence were stirred to extraordinary activity. They maintained that an unknown outside speculator was behind the proposal. The announcement issued by the committee stated their argument:

> SOMEBODY wants you to present him with a gift of the value of the monopoly which will be created if he can get a licence for a public-house in Letchworth. He may be a local speculator, he may be a capitalist brewer . . . you have no credentials, no guarantees. Once you have said "Yes" to this unknown, *you* will have no further opportunity of saying "No," even if he conducts his business in such a way as to be a disgrace to Letchworth. Are you prepared to forfeit your rights in this manner?

The discussion that took place on the question was evidence of the interest taken by the inhabitants in the future of the town, and a deciding factor was the general feeling that the town had benefited by having no public-house in a central position. Another factor was the announcement that if the poll resulted in the establishment of a public-house, the company would not arrange for a further poll to be taken. The argument that the town was likely to benefit as a shopping centre by the opening of a public-house was not used on this occasion to any extent. Calculations were made as to the amount of money actually spent by the inhabitants on drink, and it was estimated that it did not exceed £20,000 a year; the amount spent by the same population based on the average expenditure on drink per head in the country as a whole would have been £90,000. The intention is that a new poll is not to be taken until after an interval of three years, and then only on the request of not less than two hundred voters.

If there was a real desire to get licensed premises in the centre of the town on the lines indicated in the company's memorandum the proposal was very badly put before the inhabitants. Under the circumstances it stood no chance of success. Some part of the feeling against it was due to what appeared to be an attempt to injure a scheme for a People's House, which the temperance people were on the point of opening in the centre of the town, near the station. This building is intended to carry on the work done at the Skittles Inn on a larger scale on better equipped premises, creating a social centre without alcoholic refreshment.

There are two registered clubs where the sale of intoxicants is permitted—the Conservative Club and the Letchworth Golf Club.

*Barry Parker, F.R.I.B.A., Architect.*

LETCHWORTH: A HOUSE ON WILBURY ROAD

*Crickmer & Foxley, Architects.*

LETCHWORTH: A HOUSE ON GARTH ROAD

*Barry Parker, F.R.I.B.A., Architect.*

LETCHWORTH: A BEDROOM IN THE ARCHITECT'S HOUSE

*Barry Parker, F.R.I.B.A., Architect.*

LETCHWORTH: A HOUSE ON LETCHWORTH LANE

§ 17

The growth of the town has had nothing dramatic about it. A steady process of building and factory development proceeded until the war in 1914. Then came the changes that the war everywhere produced; the industrial organisation of the town expanded and under the influence of war demands partly changed. New factories were erected, and though the town was not made a centre for any of the large national factories, the rapidity with which it became adapted to the national needs was remarkable, probably because its industries and resources were very modern.[1] Most important of all, it became a home of Belgian refugees, and from soon after the outbreak of war until after the Armistice the town had a population of 3000 Belgians. A large number of the Belgians were skilled men working in the engineering shops on munitions of war and drawing good pay. The town prospered as a result. There was, however, little building, for the times did not permit of it. When the war ended the town showed evidence of real stability and every sign of continued growth.

The following table shows the growth of Letchworth year by year:

| Year | Number of New Buildings[2] | Estimated Expenditure[3] on New Buildings | Population[4] |
|---|---|---|---|
| | | £ | |
| 1903 | — | — | 400 |
| 1904 | 36 | 12,000 | 450 |
| 1905 | 280 | 90,000 | 1,500 |
| 1906 | 507 | 237,500 | 2,500 |
| 1907 | 970 | 314,000 | 4,300 |
| 1908 | 1,104 | 340,275 | 5,250 |
| 1909 | 1,206 | 365,300 | 5,700 |
| 1910 | 1,334 | 404,500 | 6,500 |
| 1911 | 1,564 | 462,700 | 7,300 |
| 1912 | 1,761 | 517,705 | 7,912 |
| 1913 | 1,880 | 577,705 | 8,500 |
| 1914 | 1,984 | 614,015 | 9,000 |
| 1915 | 2,160 | 666,361 | 11,500 |
| 1916 | 2,296 | 723,000 | 12,500 |
| 1917 | 2,296 | 723,000 | 12,500 |
| 1918 | 2,298 | 724,200 | 12,500 |
| 1919 | 2,345 | 771,200 | 10,000 |
| 1920 | 2,715 | 1,141,200 | 10,200 |
| 1921 | 3,070 | 1,496,200 | 10,500 |
| 1922 | 3,138 | 1,550,600 | 11,500 |
| 1923 | 3,219 | 1,625,400 | 12,500 |
| 1924 | 3,349 | 1,729,400 | 13,500 |

[1] It is of some interest to record that the existence of the town did not seem to be known to the military authorities until its site was chosen for training purposes, and the troops arrived to find a town on what was thought to be a vacant spot.

[2] Including buildings in course of erection.

[3] Estimated by the company up to 1915, from 1915 by the writer.

[4] Estimated by the company.

§ 18

Letchworth has always been noted for its social life. The pleasant friendly atmosphere that existed among the first inhabitants, which made the experience of those who were fortunate enough to take a part in the founding of the town so unforgettable, has remained, and the town to-day has homely qualities, a freshness of sentiment in its population and a welcoming air that is very unusual. The old towns have their traditions and their memories; the new suburbs have nothing around which a sense of community can centre; but the garden city, built for a purpose, influenced by an ideal, has a spirit of spontaneous fellowship which makes for social life. That social activity expresses itself in the societies and clubs that are formed for study, recreation, sport and everything else. It is found also in the churches that are founded, in the schools that are set up, and throughout the daily lives of the people. Its tendency is to lessen class and other distinctions between people and to bring about a community of interest which is splendid material for building up the city. In Letchworth this spirit owed a great deal to the novelty of the scheme and is not likely to be repeated precisely in the same degree elsewhere. But the essential parts of it may be considered to belong to an attempt to make a new town, which always and everywhere, no matter how often repeated, is likely to fascinate and inspire those who engage in it.

# CHAPTER II

## THE TOWN-PLAN

People will say that the growth of your garden city is arbitrary and artificial, that it is not growing as historical things do grow. . . . I would urge you to reply when dealing with that by insisting that everything connected with humanity is artificial, and that the garden city is the result of practical causes.—G. K. CHESTERTON (1905).

### § 1

THE town-plan of Letchworth was prepared just before the recent town-planning movement in England had started. Mr. T. C. Horsfall had published his book on the example of Germany in town-planning, and a number of other people had written on the subject, among them Mr. Ebenezer Howard himself in his own book. But there was no great interest in it among architects or engineers or anybody else until after the development of Letchworth. Undoubtedly the scheme played a large part in directing attention to town-planning throughout the country, and even abroad, by providing a striking example of a plan for a complete town. The Letchworth town-plan, therefore, will always have a special significance as the first attempt on any considerable scale to express twentieth-century town-planning practice and ideas.

Messrs. Parker and Unwin (then of Buxton) and Mr. Halsey Ricardo and Prof. W. R. Lethaby were instructed by the company to prepare sketch-plans of the proposed town; the general scheme of Messrs. Parker and Unwin was adopted, and they were commissioned to prepare the town-plan. Mr. Unwin came to his task well versed in the sociological aspect, if we may so express it, of housing. He had a humanistic view of the duty of the architect, and of the obligation of the community to see that its members live under decent conditions. Those leading ideas are clearly shown in the plan for the new town that he prepared with Mr. Barry Parker. It would not be unfair shortly to describe that plan as a group of connected villages around a civic centre, with a factory district on the outskirts. The planning of the north-east and north-west sections of the town indicates the idea of local community life;

PARKER & UNWIN'S ORIGINAL PLAN OF LETCHWORTH GARDEN CITY,

AS FIRST PUBLISHED

(APRIL 1904)

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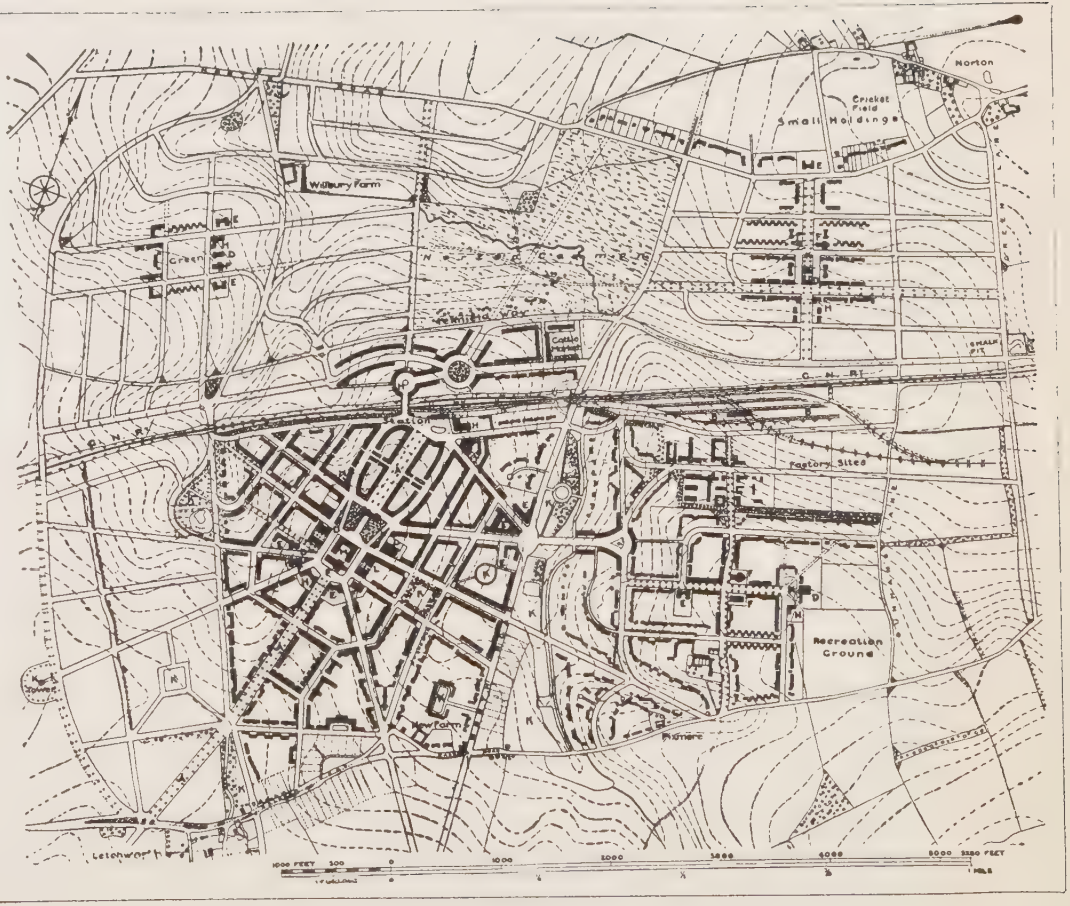
*Key to Plan*

A. Main Avenue
B. Goods Yard and Sidings
C. Central Square
D. Sites for Public Hall, Museum, etc.
E. Sites for Schools
F. Sites for Places of Worship
H. Sites for Hotels
K. Open Spaces, Greens, or Parks
L. Site for Post Office
M. Site for Municipal Buildings



while throughout the plan there may be distinguished a series of minor centres which show that this idea was a predominant factor in the conception of the plan.

§ 2

An account of the site has been given in the preceding chapter. The shape of the estate was something like that of a pear, and the whole of the property within the boundaries (with exceptions that are negligible) had been purchased. The town-planners therefore had a free hand, subject only to the physical conditions of the site and the requirements of the company. The first matter that had to be considered was the fact that the railway running through the centre of the estate cut it into halves. This made a physical separation between the two parts of the estate which could not be ignored, and at once, whatever the other conditions were, made it impossible to prepare an ideal town-plan.

The effect of a line of railway upon a plan is of primary structural importance. Theoretically perhaps it would be ideal if the railway were to enter a town and after arriving at the most convenient point for traffic purposes pass out again by the same route—that is, make the town a terminus. But practically all towns must have a railway either running through them or on their peripheries. In the first instance the town is given the advantage of transport facilities at or near its centre where the largest area can be served; while in the other the cutting of the town into parts is avoided, but there is the disadvantage of a railway station at a distance from the greater part of the population. Moreover, in the latter instance, the land on the further side of the railway would need to be owned or controlled by the town to prevent advantage being taken of the proximity of the station to develop it; to secure that the station, after all, should not become the centre of development. On the whole, it is probably better for a railway to run through a town as near to the centre as possible; but the division of the land so created should be worked into the town-plan and made some use of, separating for example the industrial and residential areas.

The other physical features of the site were the slight valley running through the middle of it from south-east to north-west, which suggested the line of the main drainage system; the level land necessary for factory sites, which lay somewhat to the east of the estate; the existing main roads, which were few: the Hitchin to Cambridge road, which ran

west to east parallel with the railway but at a distance of three-quarters of a mile, and the road through Norton on the north at about the same distance from the railway, and also running roughly parallel with it; and the position of woodlands such as Norton Common.

§3

The requirements of the company were that provision had to be made for a population of from 30,000 to 35,000 persons, with factory sites and areas for houses and cottages, and that an agricultural belt around the town was to be preserved. The estate lent itself to the meeting of these requirements. The central part of the town was placed on a large field to the south of the railway, constituting a plateau sloping slightly towards the north. The main road of the town, Broadway, was made to run north from the Hitchin road to the site selected for the railway station, a distance of about one mile. On the Broadway, in the centre of a bare but almost level piece of land, was put the town square, from which roads were thrown out to all parts of the town. A second road of importance, Norton Way, was made to run north and south, about a quarter of a mile to the east and almost parallel with the Broadway. The shopping and commercial area was placed between the town square and the station, with residential areas surrounding it. The factory area was placed to the east of Norton Way, where it was screened by rising ground and trees from the greater part of the residential districts. Norton Common, which consisted of about seventy acres of woodland, though close to the station on the north side and consequently of considerable value as building land, was rightly preserved as an open space, and the only other piece of land with trees and shrubs upon it in the town area, the strip now known as Howard Park, was also happily retained, though this land also had immediate building value. Letchworth Park, in the south-west, was laid out as a golf-course.

Of the total area of 3822 acres, approximately 1250 acres were included in the original town area, the remaining 2500 acres constituting the agricultural belt. After the town-plan was prepared additional land amounting to about 730 acres was purchased. The gross town area, which has been slightly modified as a consequence of this purchase of additional land, is now approximately 1482 acres, from which about 120 acres must be deducted for roads and 150 acres for open spaces, leaving approximately 1200 acres net in the town area. On the basis

*Bennett & Bidwell, Architects*

LETCHWORTH: THE FRIENDS' MEETING HOUSE

LETCHWORTH: ENTRANCE TO PRIMITIVE METHODIST CHURCH, BROADWAY (1913)

LETCHWORTH: THE BROADWAY

LETCHWORTH: THE BROADWAY

of 4.5 persons per house and 5 houses per gross acre, a population of 33,000 can be accommodated.

When the plan was adopted Mr. Unwin and his partner, Mr. Barry Parker, became the consulting architects to the company, and were given a part in carrying it into effect. They had a share, therefore, in the control of building, the preparation of building regulations, and the application of the plan to the practical work of development. Mr. Unwin, however, gave very little time to the business after 1907 and retired altogether from it in 1914, since which date the work has been carried on entirely by Mr. Barry Parker.

## §4

The first step after the preparation of the preliminary town-plan was the publication by the company of a pamphlet addressed to those who intended building in the new garden city, setting out the ideas of the promoters and the general lines they wished followed. Mr. Unwin had a prominent share in the preparation of that document. It is of sufficient interest for some part of it to be reprinted here:

### GENERAL SUGGESTIONS AND INSTRUCTIONS REGARDING BUILDINGS OTHER THAN FACTORIES ON THE GARDEN CITY ESTATE

The directors of First Garden City, Ltd., are convinced that the high standard of beauty which they desire to attain in Garden City can only result from simple, straightforward building, and from the use of good and harmonious materials. They desire as far as possible to discourage useless ornamentation, and to secure that buildings shall be suitably designed for their purpose and position.

The company will prepare building plans of the sites on those parts of the estate intended to be first developed. Upon the plans will be set out:

(*a*) The areas within which houses may be erected and by which the boundaries of the land intended for front gardens, for traffic, or for recreation purposes, will be defined.

(*b*) Any provisions as to the height of buildings, the extent to which trade buildings will be permitted, and to which buildings may be erected behind the main buildings. . . .

In certain cases it is not proposed to enforce a hard-and-fast building line, but some simple regulation as to building area will be made. Houses may be set back or forward within certain limits, and may be set at varying angles where this would be advantageous. A building line will be suggested in the first place by the company, and any alteration which the intending builder proposes to make will be carefully considered in each case. Particulars will be provided to the applicants for each plot together with the tracing of the plot agreed to be taken.

It should be remembered that a sunny aspect for the main rooms is almost as important as ample air space, and that other considerations, such as fronting the houses or cottages to the road, are of little importance in comparison. In Garden City ample frontage will be provided, and it is hoped that builders will not think of erecting those common, unsatisfactory rows of narrow houses, with unsightly "backs" projecting behind to the exclusion of air and sunshine, for which the chief reason has been the high cost of frontage in existing towns. One suitable

arrangement will be found to be that of having no out-buildings at all; the W.C. or E.C. being under the main roof and entered from the porch or from a lobby outside.

The buildings must have their external walls and roofs constructed with approved materials. The common arrangement of a faced front with inferior materials for sides or back will not be encouraged in detached houses. The directors prefer that one quality of material should be used throughout each house, and one character of building maintained on all its sides.

If plots are fenced, it should be with hedges of approved character, and simple temporary fencing will be permitted until such hedges have grown sufficiently to form an effective fence. All fencing must be subject to the approval of the company's surveyor.

The promoters believe that by encouraging quite simple buildings, well built and suitably designed and grouped together, they will be helping to secure for the Garden City a special charm and attractiveness by methods which experience shows are better calculated to ensure them than the lavish use of pointless ornament. They quite realise, however, that in good hands tasteful ornament used with due reserve may add much to the interest and beauty of the town, and would welcome such work accordingly.

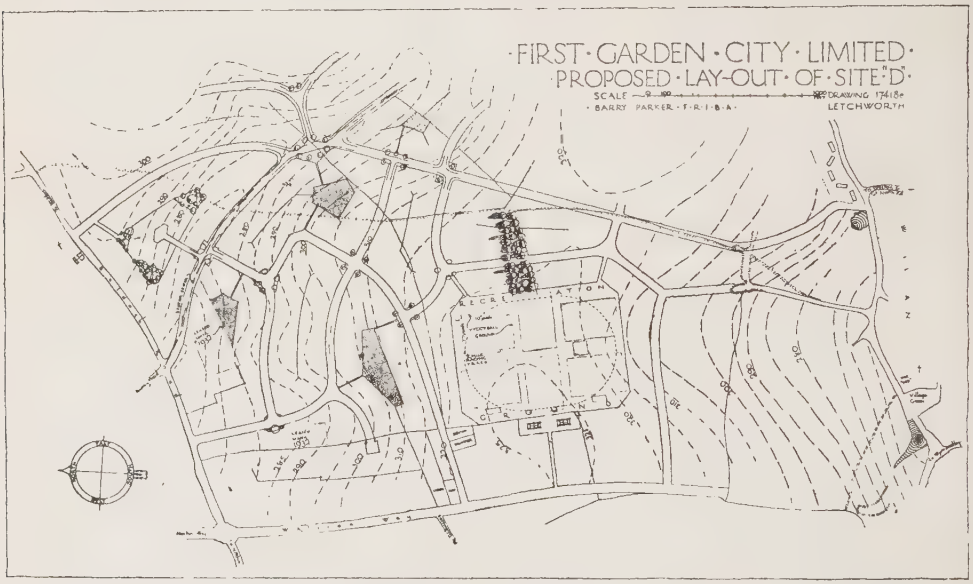
At the same time a series of "Bye-laws with respect to the Drainage of Buildings on the Garden City Estate" was issued, which was followed by the preparation of building regulations which set out the requirements of the company in detail. The Garden City Company had no other powers for the carrying out of their scheme beyond the powers given under the ordinary laws to every land-owner. As owners of the estate in fee-simple, which is the most absolute form of ownership known in England, they had the right to make what conditions they pleased with regard to the use of their land. The building regulations, therefore, laid down the conditions the company required to be observed by all persons taking land on the estate, and were enforceable under the terms of the leases and agreements granted by the company. The regulations included the building bye-laws of the local authority. Their general objects were to secure that buildings were soundly constructed, that building lines and areas were observed, and that the character and amenities of the town were preserved. Under these regulations plans, elevations and an abstract specification of all buildings to be erected have to be submitted to the company for approval, which is the usual practice on all estates.

## § 5

The carrying out of the town-plan was the work of the company's estate department in consultation with the consulting architects. It will be seen from a comparison of the plan of the town to date with the original town-plan that the main lines of the original scheme have been followed. Here and there will be noticed modifications in detail; for

THE LETCHWORTH TOWN-PLAN, SHOWING DEVELOPMENT UP TO JANUARY 1925

instance, the line of Norton Way is slightly changed and the north-east area has no new roads running north and south, and has three roads instead of five running east and west. One of the important changes is in the area just north of the railway station, which according to the original plan seems to have been intended to form a shopping area, or at any rate a district of some importance, with a formal lay-




Proposed Lay-out of an Area between Baldock Road, Willian Way, and Willian
*Plan by Barry Parker, F.R.I.B.A.* (1924).

out; the placing of the cottage exhibition of 1905 on this site upset the plan. The first road to be constructed, Broadwater Avenue, was not made according to the plan, and indeed the line of this road both as carried out and as originally planned was not a good one because of the contours. The original factory area was, it is clear, too small: the area originally set aside for that purpose, including railway sidings, gas works and similar purposes, was about 110 acres.

## §6

The lay-out of the shopping area and its subsequent development is worth studying. Station Road, which proceeds from the railway station towards the industrial area and the roads leading to the north-eastern

LETCHWORTH: A VIEW ON BROADWAY

LETCHWORTH: RUSHBY MEAD, WORKMEN'S HOUSES

*Barry Parker, F.R.I.B.A., Architect.*

LETCHWORTH: THE MUSEUM ON THE TOWN SQUARE

*Crickmer & Foxley, Architects.*

LETCHWORTH: A HOUSE ON NORTON ROAD

part of the estate, has shops on the southern side and cottages on the northern side for half its length, with more shops opposite the hotel where the road joins Norton Way. The development of this road cannot be regarded as being satisfactory from any point of view. The cottages, built in 1905, are out of place on it, and the shops at the eastern end, built in 1920, are equally out of keeping. The lay-out of this side of the road should have been confined to shops or houses; the mixture is disagreeable and cannot be regarded as good planning. Leys Avenue is a pleasant road and the new buildings, erected by a shop-building syndicate, are good. Shops also disport themselves in the Wynd, which is a narrow road joining Station Road with Leys Avenue, constructed partly to give back-access to the shops fronting on these two roads and partly for the purpose of developing the inner triangle of back land. The original intention was that the land should be used for workshops; but the workshops, in the course of changes of tenancy and growth of business, have become shops of various kinds for which neither the buildings nor their positions are fitted, and they now constitute a defect of some consequence in the Letchworth plan. The profitable use of land in such a position is a problem for the estate developer, and the experience of Letchworth should be noted. Commerce Avenue, which runs from Leys Avenue to Gernon Road, is also used for a mixture of cottages, warehouses, workshops and shops. The student may ask himself to what extent the problem has been solved here. Eastcheap, Broadway and Westcheap constitute the remaining parts of the shopping and business area of the town. Building on Eastcheap has already been considerable; but it will no doubt be many years before the area is anything like filled. The danger that will need to be watched in the future planning and building for the area is, in the present writer's opinion, that of straggling development. Shopping areas need to be compact to secure the maximum land value; it will need great skill to develop Westcheap, for example, so as to secure really good values there.

## §7

The characteristic feature of Letchworth is the open lay-out of the roads and houses so that the whole town preserves some of the features of a park. All roads are planted with trees, with greenswards along all but the busiest roads and some of the narrower residential roads; and the hedges to the house-plots, and the trees, shrubs and flowers in

the gardens give the town a rural appearance at all times. The street trees add much to the attractiveness of the town, and on the whole they have been well chosen. The following is a list of the trees planted and the roads where they may be found:

THE TREES OF LETCHWORTH AND THE STREETS WHERE THEY ARE PLANTED

| | |
|---|---|
| *Acer Dasycarpum* (*Silver Maple*) | Works Road |
| *Acer Platanoides* (*Norway Maple*) | Hitchin Road |
| *Acer Platanoides Digitala Aureo-Marginatum* (*Norway Maple*) | Ridge Road |
| *Acer Platanoides Reitenbachii* (*Professor Reitenbach's Sycamore*) | Norton Way N. |
| *Acer Platanoides Schwedlerii* (*Dr. Schwedler's Maple*) | Nevell's Road |
| *Acer Pseudo-platanus* (*Sycamore*) | Pixmore Avenue; Baldock Road; Nevell's Road; Green Lane; Rushby Mead; Shott Lane; Sollershott W.; Pixmore Way E.; Rushby Mead S.; Works Road |
| *Acer Saccharinum* (*Sugar or Bird's-eye Maple*) | Broadway N.; Commerce Avenue |
| *Æsculus Carnea* (*Red Horse Chestnut*) | Willian Way; Station Place; Field Lane |
| *Æsculus Hippocastanum* (*Horse Chestnut*) | Norton Way; Station Place; Sollershott E.; Willian Way; Pixmore Way |
| *Betula Alba* (*Silver Birch*) | Paddock Close; Station Road; Broadway N.; South View |
| *Carpinus Betulus* (*Hornbeam*) | Town Square |
| *Catalpa Syringæfolia* (*Indian Bean*) | South View |
| *Cedrus Deodara* (*Deodar Cedar*) | Town Square |
| *Cratægus Oxyacantha* (*Common Hawthorn*) | South View |
| *Cratægus Oxyacantha Alba Pilgeus* (*Hawthorn*) | South View |
| *Cratægus Oxyacantha Charles X.* (*Scarlet Thorn*) | Common View |
| *Fagus Sylvatica* (*Common Beech*) | Town Square |
| *Fraxinus Americana* (*White Ash*) | Broadway N. |
| *Fraxinus Excelsior Heterophylla* (*Simple-leaf Ash*) | Lytton Avenue |
| *Fraxinus Ornus* (*Manna Ash*) | Broadway S.; Lytton Avenue; Glebe Rd. |
| *Laburnum Alpinum* (*Scotch Laburnum*) | South View |
| *Laburnum Vulgare* (*Common Laburnum*) | South View |
| *Laburnum Watereri* (*Common Laburnum*) | South View |
| *Populus Alba* (*White Poplar*) | Gernon Road |
| *Populus Caroliniana* (*Poplar*) | Ridge Avenue |
| *Populus Fastigiata* (*Lombardy Poplar*) | Town Square; Station Way |
| *Populus Nigra Pyramidalis* (*Lombardy Poplar*) | Hillshott |
| *Prunus Amygdalus* (*Almond*) | Icknield Way; South View; The Crescent |
| *Prunus Cerasus Rhexi flore-pleno* (*Double Cherry*) | Icknield Way W. |
| *Prunus Laurocerasus* (*Cherry Laurel*) | Glebe Road |
| *Prunus Padus* (*Bird Cherry*) | South View; Common View |
| *Prunus Pissardii* (*Purple Plum*) | Paddock Close; Cashio Lane; South View; Icknield Way W. |
| *Pyrus Aria* (*Whitebeam*) | South View; North Avenue |
| *Pyrus Aucuparia* (*Mountain Ash*) | South View; Leys Avenue; Cross Street; Broughton Hill |

| | |
|---|---|
| *Pyrus Communis* (*Pear*) . . . . . | The Quadrant; Souberie Avenue |
| *Pyrus Malus Ateo Sanguinea* (*Dartmouth Crab*) . | South View |
| *Pyrus Salicifolia Pendula* (*Crab*) . . . . | South View |
| *Rhus Typhina* (*Stag's Horn Sumach*) . . . | South View |
| *Robinia Pseudacacia* (*False Acacia or Locust Tree*) | Meadow Way; Spring Road; Broadwater Avenue |
| *Robinia Pseudacacia Bessoniana* (*Round-headed Locust Tree*) . . . . . | South View; Birds Hill; Cross Street |
| *Robinia Pseudacacia Inermis* (*Red-flowering Locust Tree*) | South View |
| *Tilia Dasystyla* (*Broad-leaved Lime*) . . . | Pixmore Avenue; Broadway (middle); Norton Way N. |
| *Tilia Vulgaris Europæa* (*Lime*) . . . . | Norton Way; Station Place |
| *Ulmus Glabra Cornubiensis* (*Cornish Elm*) . . | Town Square |
| *Ulmus Monumentalis* (*Weeping Elm*) . . . | Pixmore Way |

Tree-planting on the central plateau to form the town square and along the line of Broadway was done at an early date, and at the same time hedges were planted on the road boundaries and groups of trees and shrubs at intervals in the area; the result was that when the Broadway was constructed in 1924, the trees and hedges were well grown and added greatly to the attractive appearance of the road.

The only piece of formal planting in the town is in the portion of Broadway from the town square to the station, which is simply laid out with trees and evergreen shrubs in variety in two strips 12 feet in width with a 16-foot gravel walk between. When the town square is made it will probably continue this formal planting. Howard Park is a small park of four acres along the side of Norton Way, consisting of the remains of a small piece of woodland, through which the Pix brook runs. Norton Common is the chief natural feature of the town, consisting of seventy acres of woods and shrubs; it has now been taken over by the urban district council, the company reserving the frontages on the Icknield Way and Wilbury Road.[1] Letchworth Park, in the extreme south-west of the estate, is a charming piece of country with fine views, on which the golf-course has been laid out.

## §8

Everyone at Letchworth is, and always will be, near to the open country, which being within walking distance from every part of the town can be enjoyed as part of the ordinary lives of the inhabitants. We say the country always will be near; but that will depend upon

[1] This old piece of common land thus becomes public property, the company having purchased all existing rights. When the estate was originally acquired the land had become its private property.

the vigilance of the townspeople and the extent to which they desire to preserve their garden city. The old town of Hitchin has already extended its boundaries to include the adjoining village of Walsworth, so that Hitchin urban district now adjoins the Letchworth urban district. Letchworth is now larger than Hitchin in population and rateable value, which has provoked the latter to prepare plans for extension. It is essential, however, in the interests of both towns that a wide belt of agricultural land should separate them, and if the people of both towns are wise they will take care that Hitchin does not develop much beyond Walsworth or up the Letchworth Hill.

## §9

It was no doubt an inspiration of Mr. Unwin's to place the centre of the town on the small plateau immediately to the south of the railway. It was nearly the centre of the estate, and the three oak trees that stood there drew him to the spot. From thence his imagination quickened, he saw the whole lay-out of the town. Norton and Norton Common could be seen and the Weston Hills to the south-east, while the aspect of the land, almost bare of timber as it was, invited a town-planner to make something of it. To this centre Mr. Unwin brought his main highway. At one time, as he tells us,[1] he considered making the road called Norton Way, which runs through the town directly north and south, the main highway. The present writer ventures to think that the plan might have been improved had he done so. Let us see for a moment what the effect of it might perhaps have been. We should have had a road running through the town from north to south with the possibility of extension through the village of Willian on the south to the Great North Road, thus giving excellent highway connection with London, but without the danger of diverting through traffic into the town. The road would have separated the industrial area from the residential area, while the planning of the triangle made by Leys Avenue and Station Road as the commercial and business district would have brought it nearer to the industrial district than it is now. The town centre, with the municipal buildings, could have been placed just off Norton Way (on the section marked with a "K" in a circle on the original plan). The railway station would have been somewhat to the

[1] *The Garden City*, pp. 225–6.

east of that road.[1] The whole of the area to the west of Norton Way would have been residential, with a large open space where the town square is planned. Howard Park, on Norton Way, would have remained as it is, except that it would have been extended on the east, making a very pleasing feature near the shopping area and separating the factory area from the rest of the town. The factory area would have formed roughly a triangle, with its base-line running (though in not quite a straight line) from the site just suggested for the railway station to the point where Dunham's Lane touches the Baldock Road.

Well, so we may improve on the event; and Mr. Unwin will forgive the writer for doing what he has probably done himself many times in the twenty-one years since the plan was made. There is no doubt that we have moved a certain distance since then. We have had legislation in the Town Planning Acts of 1909 and 1919, the creation of a professional institute of town-planning, numerous books and pamphlets and a vast volume of discussion; but in essential ideas it is doubtful if we have much improved upon those expressed in the Letchworth plan.

## § 10

The consulting architects at first endeavoured to exercise control over building in the town. They had in their minds what they wanted to see built, and they did their best to get that carried out; but it is one thing to do what one sees oneself and another to induce someone else to do it. The first sites were taken by small speculative builders who designed their own houses, and by people who wished to build for themselves and employed architects of their own choice. Many of these people did not readily fall in with the ideas of the consulting architects. The speculative builder wanted to put up a type of villa that was everywhere being built and had proved attractive to the public, and out of which he could make money. It can easily be imagined that his ideas were not acceptable to Messrs. Parker and Unwin, any more indeed than they would have been acceptable to any other architects. But the speculative builder was often not impossible to deal with. He was ready to listen to what was said to him and to accept alterations to

[1] This, curiously enough, was the alternative site chosen by the railway company to the site mentioned in the last chapter. The railway goods yard and sidings had to be placed near the factory area, and the railway company desired to have the passenger station near the goods station for administrative purposes. It was only with considerable difficulty, and after some years, that they were induced to build the permanent railway station on the site selected by the architects.

his plans; he was even ready, if need be, to spend a little more money than he at first intended to make his house satisfactory. Yet when the best had been done the result was seldom what the architects wanted. The client with his own architect was more difficult in every way. When a man wants a house for himself he does not always find it easy to consider other people's needs and opinions; he wants to build what he likes; and when he has an architect to carry out his wishes the client and the architect together can make a very formidable opposition.

It is not surprising, therefore, that conflict arose in the attempt to secure architectural control over buildings, especially over the appearances of buildings; and Messrs. Parker and Unwin had an extremely troublesome task. They undertook it, however, with great spirit and energy, and were prepared to stand by their opinions. But the Garden City Company wished to let sites, and though the enthusiasm of the architects inspired the directors and their officials to go with them some distance, it did not take them the whole distance, and as they were not prepared to lose too much, if any, business, the client and his architect got in the end pretty much what they wanted. Indeed, the cultivation of architectural taste had, in the minds of the directors of the company and their officials, some association with the eccentricities of opinion and behaviour with regard to which there was already a determination that they should not be welcomed in the town. In the result the architects were forced to modify their attitude. Without any general standards that were accepted by the parties concerned, and in particular without any existing architectural standard in the town itself (which in the absence of a general standard of architectural taste there could not be), it was practically impossible to enforce all the architects desired.

The only means by which the architects' ideas could have been carried out was by the company doing the building of houses itself, which was remote from the directors' intention; indeed, they had not the capital to do it.

A large number of vacant plots throughout the town which remained unbuilt upon for a long time gave the place an untidy appearance, and the town would have gained considerably had some systematic method been adopted by the company for dealing with these plots. Since 1923, however, much of this land has been dealt with.

The absence of any large building schemes, except for workmen's cottages, accounts for the lack of uniformity in building and for the

individualistic character of most of the houses. This is better, everyone will agree, than the monotony of the suburbs where streets are built up by the speculative builder according to his own ideas of art and beauty; and though all speculative builders are not devoid of taste, the mass of middle-class houses throughout the country is devoid of architectural interest, which accounts for the suburbs being so dull. At Letchworth the houses are individual, some good, some bad, but with some sort of character if only because they were not built *en masse*. What causes them to be agreeable, and makes every street pleasant to see, are the gardens and grass verges to the roads. Nature aiding, even encouraging, the efforts of man has brought beauty to the town, so that while hardly anywhere will you meet consistent architectural treatment of building, yet everywhere there is something at least to refresh the eye and give pleasure. The attraction of the town is felt by everyone, though its full significance may not be perceived by a hurried drive round it. There are few people who have lived in it for any length of time who do not appreciate the sense of space and air that it displays, and the charm that it unmistakably possesses.

# CHAPTER III

## THE SHOPS

. . . the merchants to provide for it. . . .—JOHN RUSKIN.

### § 1

MR. HOWARD made the shops not only a feature of his garden city scheme, but one of its sources of revenue. His idea was to place around the central park a wide glass arcade, making a combination of winter garden and shopping centre, which should be "one of the most favourite resorts of the townspeople." [1] These ideas were not applied to Letchworth; but as shops are so important an element in town life they deserve a chapter to themselves.[2] The shops of Letchworth have had a normal growth. The first to be established was a sub-post office and small general store. A co-operative society was also formed and started business, but it was some years before it established itself in a sound position. In the meantime shop sites were laid out and offered to those who would take them and erect premises. The first schedule of plots issued in June 1905 offered sites for shops in Station Road at ground-rents of £1 16*s.* 3*d.* to £3 2*s.* 6*d.* per plot, per annum, being calculated at the rate of £10 per acre, per annum, for a 99-year lease. A note in the particulars says, "A cash premium is payable for each lease, the company undertaking to restrict competition on terms to be arranged." Eight of the nine sites offered were let by the following year, together with four other shop sites in Leys Avenue. No cash premiums were secured, however, and no definite agreements were entered into to restrict competition. One or two only of the sites were let at the advertised rents, the others fetching

[1] *Garden Cities of To-morrow*, p. 77.

[2] Some of the promoters of Letchworth were very anxious that the co-operative movement should be associated with the town, and Mr. Howard himself endeavoured to get the Co-operative Wholesale Society to provide shopping facilities (see *The Garden City*, p. 293). A public meeting was held in London in March 1904, six months after the scheme started, attended by large numbers of representatives of co-operative societies and many public men, with a view to getting those responsible for the co-operative movement to establish workshops and stores in the new garden city. (A report of the proceedings is contained in a pamphlet entitled *Garden Cities and the Realisation of the Co-operative Ideal*. Printed by the Co-operative Printing Society, Manchester.) But the co-operators could not be induced to do anything.

LETCHWORTH: THE SHOPPING CENTRE, LEYS AVENUE
The large group of shops was erected in 1923 (Bennett & Bidwell, Architects).

*Bennett & Bidwell, Architects.*

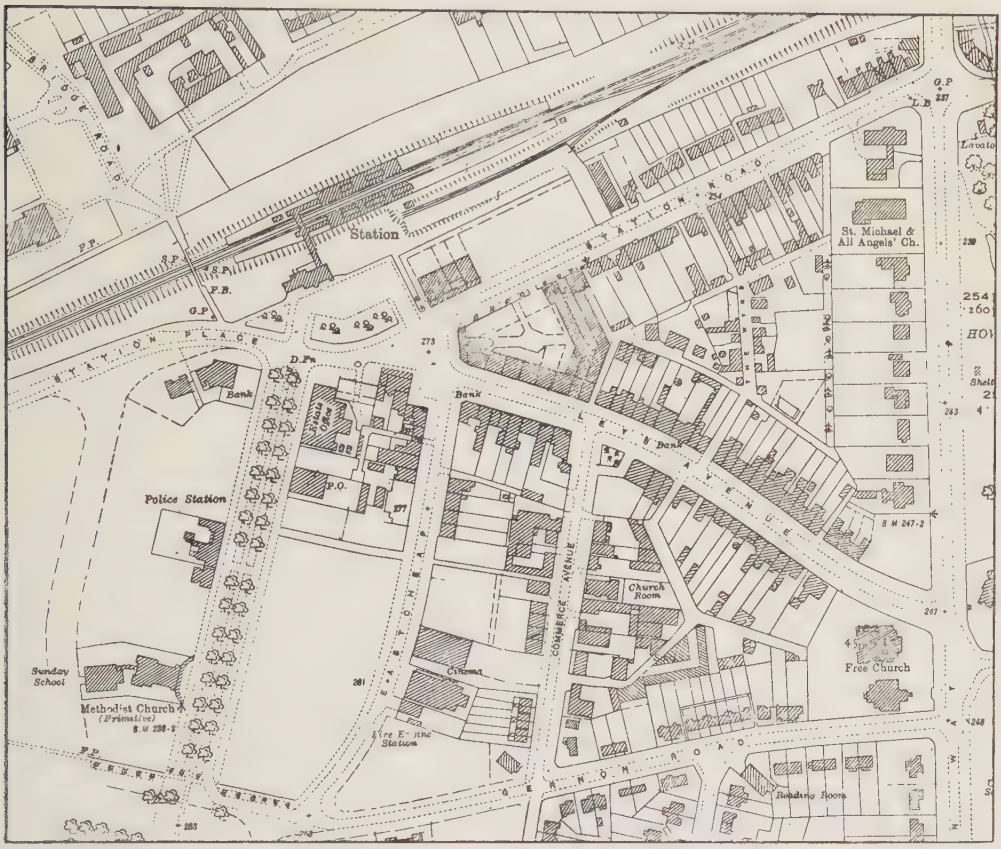
LETCHWORTH: THE ARCADE (1923)

*Crickmer & Foxley, Architects.*

LETCHWORTH: A GROUP OF SHOPS ERECTED IN 1909

LETCHWORTH: STATION PLACE (1923)

somewhat higher rents; the area disposed of for commercial purposes in 1905 being just over one and a half acres at a total ground-rent of £40, but not all of these sites were for shops or were in the shopping area. The shops were placed on the triangle of land formed by Station Road and Leys Avenue, the apex of which is close to the station. The




LETCHWORTH: THE SHOPPING AREA

Eastcheap, Commerce Avenue, Station Place, Station Road, Leys Avenue, and the Wynd. Broadway contains no shops at present, but such buildings as Post Office, Police Station, etc.

*Reproduced from the Ordnance Survey, with additions, by permission of the Controller H.M. Stationery Office.*

shops all contained living-rooms over the ground-floor premises, they were all permanent buildings, and on the whole had some architectural merit, the better buildings being in Leys Avenue.

The letting of shop sites proceeded with the growth of the town. It is said that for some time preceding 1913 the company discouraged the building of more shops for the reason that the town already had

sufficient, and that it was necessary to encourage the existing traders. The writer is unable to confirm this statement, though the fact remains that little shop-building was done in that period. Rather more than half the shops were erected speculatively for letting on lease, the others being put up by the shopkeepers themselves. With a few exceptions the shopkeepers were men who had given up business in other towns or people newly starting in business for themselves; the two or three exceptions were branches of businesses from neighbouring towns. For some years the majority of the shopkeepers did not do well, a proportion of them abandoned business, not having sufficient capital to hold on, but many of the more enterprising built up good businesses and became markedly successful. In 1910 or thereabouts, branches of the large multiple shops began to be established in the town. On the whole the shopping facilities could not be regarded as good up to the date of the war, and a large proportion of the population made their purchases in the surrounding towns of Hitchin, Baldock and elsewhere. Just before the war a company was formed for the purpose of erecting good shops and attracting traders to the town, and several shops were erected in Eastcheap. There was of course no shop-building during the war, and little was done for some time after; but in 1922 the shop-building company became active again, erected a number of shops, and, realising the demand, secured a large site between Leys Avenue and Station Road, at the apex of the triangle, upon which it built some substantial shops, larger than any yet erected in the town, including an arcade. The ground-rent paid for this site was at the rate of 1*s.* 6*d.* per square yard per annum.[1] The small lock-up shops in the arcade were let at rents of £78 per annum. Other sites have more recently been disposed of at much higher values.

§ 2

A study of the growth of shops in the town is worth making. As a contribution towards it we may examine the first Letchworth directory, issued in July 1907, four years after the scheme started. There were then approximately thirty shops, their distribution under trades being as follows:

| | |
|---|---|
| Bakers | 3 |
| Banks | 2 |
| Boot Makers, etc. | 2 |

[1] Sites for shops in Eastcheap were offered from 1913 to 1916 at 4*d.*, 5*d.* and 6*d.* per square yard.

| | |
|---|---|
| Butcher | 1 |
| Cycle Agent | 1 |
| Dairyman | 1 |
| Drapers, etc. | 2 |
| Drug Stores (not a chemist) | 1 |
| Fishmonger | 1 |
| Fruiterer, etc. | 1 |
| Furnishers, etc. | 3 |
| Grocers and Provision Merchants | 4 |
| Hairdresser | 1 |
| Ironmongers, etc. | 4 |
| Jeweller | 1 |
| Newsagent, etc. | 1 |
| Outfitters | 2 |
| Stationer | 1 |

A majority of the businesses were engaged in more than one trade, but each has one place only in the above list, under its main trade. There were also a few people conducting business from private houses or elsewhere than in the shopping area; these have been excluded. There were in addition four hotels, fifteen builders and five builders' merchants, though a number of the builders also traded as builders' merchants. A trading concern not included in the above figures, as it conducted business in a temporary wooden shed outside the shopping area, was a co-operative enterprise called Garden City Small Holdings Ltd., which existed for the purpose of disposing of the produce of the smallholders established in the agricultural belt. A good deal of energy was put into the conduct of the business, but it ultimately failed because supplies could not be relied upon; shortages alternated with gluts in a manner which proved neither profitable to the producer nor satisfactory to the consumer.

The present position with regard to shops in Letchworth is worth recording. Of the businesses existing in 1907 thirteen have disappeared, others are now in other hands, and twelve remain in the same hands. The distribution is now as follows:

| | |
|---|---|
| Bakers | 4 |
| Banks | 3 |
| Bookseller (secondhand) | 1 |
| Boot and Shoe Makers and Repairers | 13 |
| Butchers | 10 |
| Café | 1 |
| Chemists | 3 |
| China and Glass Dealers | 3 |
| Confectioners | 5 |
| Corn-chandlers | 4 |
| Cycle Agents | 5 |

| | |
|---|---|
| Dairymen | 4[1] |
| Drapers, Milliners, etc. | 14 |
| Dry Cleaner | 1 |
| Electrical Engineers | 2 |
| Fancy Goods | 7 |
| Fishmongers | 3 |
| Furnishers, etc. | 5 |
| General Stores | 2 |
| Greengrocers | 9 |
| Grocers and Provision Dealers | 13 |
| Hairdressers | 6 |
| House Agents | 4 |
| Ironmongers | 4 |
| Music Stores | 2 |
| Newsagents | 2 |
| Outfitters | 10 |
| Photographers | 2 |
| Picture Framer, etc. | 1 |
| Plumbers, etc. | 2 |
| Sewing Machine Dealer | 1 |
| Stationers | 3 |
| Tailors | 5 |
| Tobacconists | 3 |
| Typewriting Office | 1 |
| Watchmakers | 3 |

There is a large co-operative stores, and a "guild shop" for the sale of the products of the St. Christopher guilds. The hotels now number three, there are thirteen builders and five builders' merchants. Many of the shops are concerned with more than one trade, some indeed combine several in the same premises; but each shop is included once only in the above list. In some cases more than one shop is owned by the same person or firm. A tendency is to be noticed, which has always existed in the town, for business to be done in private residences. This is checked to a large extent, but not completely; it is agreed to be an undesirable thing.

## §3

In addition to the main shopping area, there are two general stores (one being a sub-post office) at Norton, a general stores in Common View, a sub-post office and small stores at Letchworth Corner, a general stores in Pixmore Avenue, and two general stores, adjoining each other, built in Spring Road and let on tenancy. These shops were opened to

[1] Also two who have no shops, working from farms.

meet the needs of people living at some distance from the centre of the town; but the premises and business are relatively small because practically the whole of the shopping business is done in the centre.

§ 4

The shopkeepers on the whole seem to be doing well. Very few of the premises are large or capable of much extension, and the individual stocks, with certain exceptions, do not appear to be large. Here and there a shopkeeper seems to be having a hard time, but there is a general air of prosperity. The people from the surrounding villages and Hitchin are shopping in the town in increasing numbers, and since the improvement in motor omnibus facilities the incoming trade has grown considerably, so that the place now counts as a shopping centre in the county, which is no slight achievement. A number of the shopkeepers have established branches in the neighbouring towns. A few years ago it was estimated that fifty per cent. of the wages and salaries paid in the town was expended elsewhere; but to-day it is considered that not more than twenty per cent. goes out of the town. It is worth noting that the tradesmen say that the open lay-out of the town, and the smaller number of houses to the acre than is built elsewhere, increases the cost of the delivery of goods. This applies to all building development on the same principle as that observed at Letchworth, and is of some consequence in relation to the effect of town- and site-planning upon the cost of living.

# CHAPTER IV

## THE INDUSTRIES

Letchworth is planned to co-ordinate the ordinary activities and occupations of human life with natural beauty, companionship, recreation, amusement and hygiene; regular work and peace of mind so far as these can be given by a satisfactory environment. In its clean, bracing air Letchworth looks good to live in: good houses, cottages well planned, no dwellings ranged unimaginatively in rows; excellent shops, first-rate schools and churches, and factories we are proud to show you. There is room in it. Factories, shops and residences do not elbow one another. There are trees and space for fresh air and sunshine.—The Rotary Club of Letchworth (Christmas 1924).

### § 1

WHEN the town was planned, sites for factories, with the necessary transport, electric power and other facilities needed for industry, were provided, because the promoters of Letchworth relied for the carrying out of their scheme upon the tendency of industrial concerns to move from the cities to the country. This economic tendency had existed throughout industrial history, in mediæval as well as in modern times, whenever city conditions became onerous. The idea at Letchworth was to create conditions in which industry would be better off than in the large congested towns on the one hand and in isolated country districts on the other. The factory area was placed to the east of the estate on both sides of the railway in such a position that it was out of sight of the greater part of the town and where the prevailing winds would carry away from the residential area any smoke there might be. The extent of the factory area is about 135 acres. A secondary small factory area of about ten acres, not provided for in the original town-plan, has been developed to the west of the railway passenger station on the north of the railway line for factories not needing siding accommodation. The main factory area is served with railway sidings so that it has direct contact with the railway; and the gas and electricity works are in the area to secure economy of distribution to the factories.

The first industries to come to the town were an engineering works and a printing office; the first lease for a factory was actually taken by Ewart and Son, Ltd., but that firm did not build until six years

later. The engineering firm was the Heatly-Gresham Engineering Works, Ltd., which was removed for the purpose of extension of the business from Bassingbourne in Cambridgeshire; the firm is engaged upon the manufacture of continuous automatic vacuum brakes, and oil, petrol and gas engines. The factory has been continuously extended and a large business is done with the north of England and Scotland, as well as in

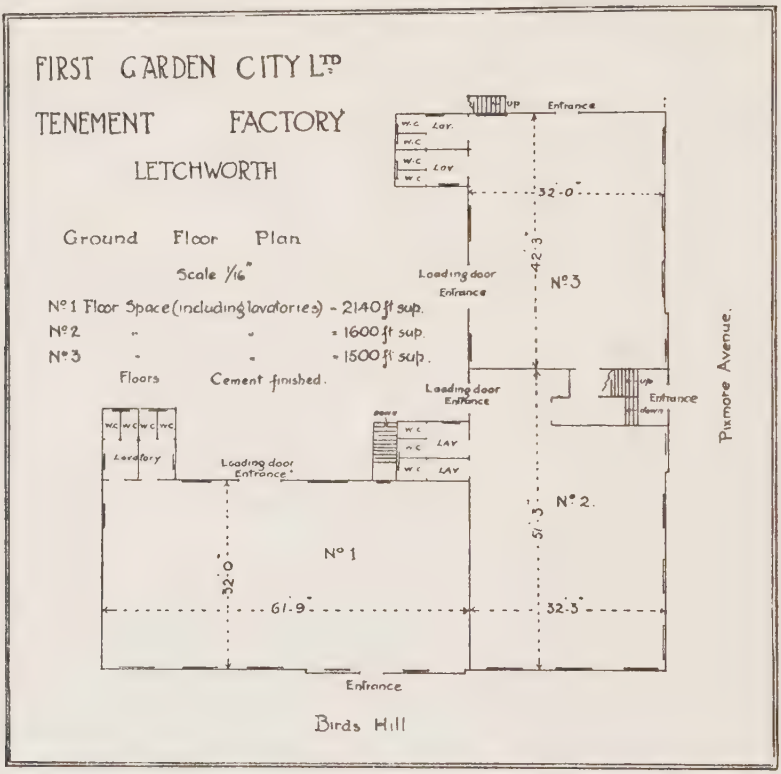
LETCHWORTH: THE FACTORY AREA

A small part of the residential area is shown in the left-hand bottom corner. There is a smaller factory area to the north of the railway, a portion of which is shown, and another small separated area near the railway station.

*Reproduced from the Ordnance Survey, with additions, by permission of the Controller H.M. Stationery Office.*

London. The printers were a group of men from Leicester who intended to establish a co-partnership printing industry. Their factory was built in 1905, and the business was conducted under the name of the Garden City Press, Ltd. A year later the bookbindery of the well-known firm of W. H. Smith and Son was removed from London, and accompanying it was the Arden Press from Leamington, which had been acquired by the same firm. J. M. Dent and Sons, Ltd., the London publishers, also established their bookbinding works in the town at the same time, and

added a printing works later. Printing, bookbinding and light engineering were therefore the original industries of the town, and they were considerable enough to give the place a definite industrial character. These industries, having found the town a convenient one for their purpose, were followed by others in somewhat similar lines of business, as well as by motor car, corset, seed-packing and other trades. The industrial growth of the town though slow was definite.




The Garden City Company undertook no factory building on rental, though the desirability of such action was frequently discussed. The company did, however, arrange for its subsidiary cottage company to put up a factory for one firm which did not have the capital to build for itself, and it assisted other firms to build their premises; and some of the directors personally took a financial interest in certain firms to encourage them to come to the town. But these were all new industries, and the assistance they received from the company was exceptional. Shortly before the war, however, the company offered

to arrange for factories to be erected for industries employing a good proportion of skilled male labour, and to let them on rental for a term of years or on a hire-purchase system. A "tenement" factory was put in hand early in 1914 and completed just after the war broke out. It has proved very successful, enabling manufacturers to get started in business. The total floor area is over 15,000 superficial feet and is capable of being divided into nine separate tenancies, each with its own lavatories and office accommodation. The average number of tenants is six, some tenants taking more than one section. The tenants are responsible for internal decorations, the company doing structural repairs; the cleaning and maintenance of the stairs and passages are done jointly by the tenants.

§ 2

The inducements held out by the company to manufacturers to establish their works in the town were:

(*a*) Low ground-rents, leases being offered up to 999 years, the ground-rent being capitalised if required.

(*b*) Low rates.

(*c*) Good housing for workpeople within reach of the factories.

(*d*) The preparation of plans for factory buildings to manufacturers' requirements and the supervision of the erection of buildings.

(*e*) Gas, electricity and water at reasonable rates.

(*f*) Railway sidings conveniently placed for railway traffic.

(*g*) An attractive social life.

(*h*) Space and air for model factories.

The growth of the town was a result of the advantages, some of them exceptional, it was able to offer manufacturers. The chief of these were due to the fact that it began with a clean slate. Its industrial development was not an afterthought, as in the case of many old towns, and it was not hampered by the accumulated burdens of the past. The economic and physical needs of industry were recognised by the promoters of Letchworth, who aimed to attract and encourage the best type of modern factory construction on sites fully equipped with light, power, drainage and traffic facilities, in order that well-arranged and healthy workshops might increase efficiency all round. And with such aims went the provision of good homes for workpeople. On these

guiding principles the town was established, and by means of them it prospered. Its elevation and aspect, its proximity to London, its railway services, and its freedom from restricting conditions, provided great natural and mechanical opportunities, the full benefits of which the enterprise of its promoters has secured for present and future industrial purposes. The town has its own water, gas and electricity works equipped with the best modern plant, designed to meet a regularly increasing demand, and all public services, of which roads and drainage may be instanced, are well constructed and economically maintained. The town also enjoys good county schools, lighting, fire protection, refuse collection, recreation grounds, and other amenities.

The comparatively low rates at Letchworth were a factor in its industrial growth. In 1915, for instance, they were 5*s.* 9½*d.* in the £, including county, district, poor, and parish rates. With an additional 4*d.* in the £ for sewage disposal the total rates were 6*s.* 1½*d.* per annum. Since the war the rates have of course increased, and now (1925) stand at 12*s.* 6*d.* It should be observed that there are no other rates levied in the town.

It was pointed out by the company to prospective manufacturers that the constitution of the company was a factor to be taken into account in connection with future rates. "Eventually they (the rates) should benefit by the profits of First Garden City Limited (the freeholders who are developing the town), as the balance of profits from ground-rents, gas, electricity, water, etc., after paying five per cent. on the company's share capital is, by the memorandum of association, to be devoted to the benefit of the town or its inhabitants."[1]

The fact that the development of the town and the building of cottages and houses was then actively encouraged by First Garden City Limited, and not left to haphazard enterprise, was of some consequence to manufacturers. It was claimed that there was no town in England where more care had been taken to house the workers economically and healthily, or where there were such well-developed means for increasing the supply of cottages to meet an increasing demand. The cottage building undertakings are also limited in dividend, so that the manufacturer was not only sure that any profit from the land, gas, water and electricity in the town over five per cent. would be used for the public benefit and economy, but that the limitation of profit extended to housing his workpeople as well.

[1] Circular issued to manufacturers, 1914.

## §3

The following is a list of the Letchworth manufacturers under trades:

*Baby Carriages:*
Marmet, Limited.

*Bookbinders:*
The North Herts Co-operative Bookbinding Works, Limited.

*Corsets:*
The Spirella Company of Great Britain, Limited.

*Embroidery:*
M. and J. Herz and Falk.

*Engineers:*
The Bowyer-Lowe Company, Limited.
T. H. Dixon and Company, Limited.
Ewart and Son, Limited.
Furmston and Lawlor.
The Heatly-Gresham Engineering Company, Limited.
Kryn and Lahy Metal Works, Limited.
Lacre Motor Car Company, Limited.
Lloyds and Company (Letchworth), Limited.
L. Lumley and Company, Limited.
Phœnix Motors, Limited.
Shelvoke and Drewry, Limited.
Shirtliff Brothers, Limited.
Speedwell Press Company.
The Westinghouse Morse Chain Company, Limited.

*Food Products:*
The Garden City Pure Food Company, Limited.

*Furniture:*
D. Meredew.

*Laundry:*
Pioneer Garden City Laundry, Limited.

*Lens Making:*
Kryptok, Limited.

*Office Appliances:*
The British Tabulating Machine Company, Limited.

*Organs:*
A. W. Hayter and Son.

*Photographic Paper:*
Kosmos Photographics, Limited.

*Printers:*
A. G. Bennett and Company.
J. M. Dent and Sons, Limited.
Garden City Press, Limited.
Letchworth Printers, Limited.
G. W. Wardman.

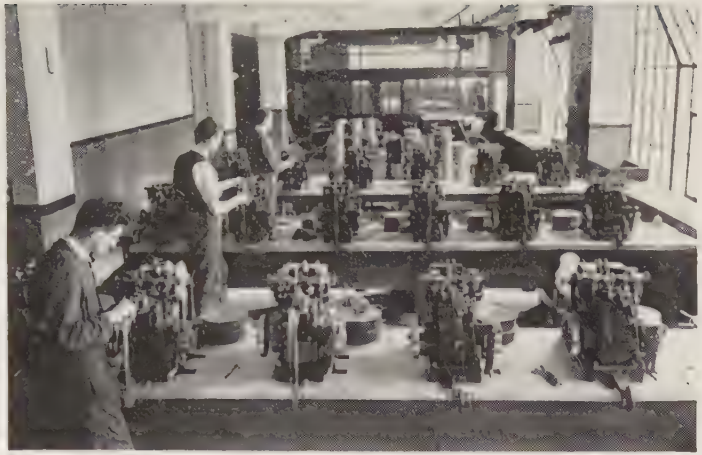
*Rubber Manufacturers:*
The Garden City Rubber Company.
*Scientific Instruments:*
W. J. Brooks and Company.
Foster Instrument Company.
Sigma Instrument Company.
*Seed Growing and Testing:*
Country Gentlemen's Association, Limited.
*Smallware:*
Brown Manufacturing Company, Limited.
*Timber Merchants:*
J. T. Stanton and Company, Limited.
*Weaving Works:*
Edmund Hunter, St. Edmundsbury Weaving Works.
*Woodworkers:*
Woodworkers, Limited.
*Woolworking:*
R. Haworth.
Letchworth Hosiery Company.

The variety of the industries is an interesting feature and adds considerably to the economic strength of the town and should greatly assist in its future development. Some of the businesses are small, employing but a handful of people; one employs as many as 1000. Subject to the general conditions of trade in the country they are all thriving. The trade slump which began in 1921 affected many of them, but with very few exceptions they are now recovering; a few which expanded greatly towards the end of the war, and continued to expand at even a greater rate immediately afterwards, felt the slump severely when it came, and one or two went under. A considerable amount of export trade is done by the Letchworth manufacturers, among the goods exported being: baby carriages, books, corsets, wireless apparatus, motor cars, steel castings, lenses, furniture, embroidery, geysers, scientific instruments, etc.

§ 4

Most of the industries came from other towns, mainly London; but it is worthy of note that the largest of them were new businesses, notably the Spirella Company, the Marmet Baby Carriage Syndicate, and Kryn and Lahy. The Spirella Corset Company was an offshoot of an American business and was first established in temporary premises in 1910; its growth was rapid, its present factory is a distinctly handsome building and adds to the architectural interest of the town.

Making the Patented Frame



The Cutting Room

Dining Room

Balcony and Machine Floor

Letchworth: The Spirella Factory

*C. H. Hignett, Architect.*

LETCHWORTH: THE FRONT OF THE SPIRELLA FACTORY

LETCHWORTH: THE EMBROIDERY WORKS OF HERZ AND FALK

*H. Burr, Architect.*

LETCHWORTH: AN ENGINEERING WORKS ON WORKS ROAD

The firm makes a feature of employees' welfare, and conducts a canteen, library, baths, provides facilities for sports' clubs of every kind, and has built a large hall for dances, etc.

The Marmet baby-carriage works was started in 1913 in a small temporary building with a total staff of twelve. Although the development of the business during the war was necessarily greatly restricted, rapid and continuous progress ensued immediately afterwards. In 1921 a new factory was erected, which has since been twice extended, and the company claims that it has now the largest and most up-to-date baby-carriage works in the kingdom.

The Kryn and Lahy works was established during the war and has about six acres of buildings. This factory found employment for about 3000 Belgians during the war—mainly refugees and wounded soldiers —who were repatriated shortly after the Armistice. The war-time production was high-explosive and chemical shells, tank parts and portable bridges. The steel foundry is now engaged upon the production of all kinds of steel castings. The output capacity is approximately 600 to 800 tons per month on a day shift only, though the output has actually reached a total of 2000 tons of liquid steel per month on a day and night shift. On a site close to the factory there is a canteen with accommodation for 1000 people and a hostel for housing about 80 men.

Among the industries adversely affected by the war were the printing and bookbinding works of W. H. Smith and Son, in which the town as well as the firm had taken a good deal of pride. When the war started the business was seriously disturbed, with the result that it was retransferred to London, where the firm had just completed a new large factory. The loss of these industries was a blow to the town. It is worthy of note that though the employees had been originally extremely reluctant to come to Letchworth, for it had then but few of the attractions of life in London, and the cottages were not liked because they were different from London houses and tenements, yet, after eight or nine years' experience of the garden city, they had come to appreciate the amenities of the town so greatly that when it was decided to return to London they united in the endeavour to induce the firm to alter their decision. That, however, was not considered possible, and the factories were disposed of to other firms; some of the workpeople returned to London, but many stayed in the town, getting other work in the district, or taking up other occupations, while a few formed themselves into a small bookbinding company.

## §5

With a view to getting the actual opinions of the manufacturers at Letchworth upon the town as an industrial centre, the writer asked them individually a number of questions, and the following are the more interesting of the replies:

### Reasons for coming to Letchworth.

To be more central and in closer touch with London market (than in Lancashire); also healthier conditions for workpeople.—*The Brown Manufacturing Company, Limited.*

Larger factory required for extension of business.—*Phœnix Motors, Limited.*

More room: low rates.—*Woodworkers Limited.*

Healthy working conditions. Low ground rent with room for expansion of works.
*Foster Instrument Company.*

We moved here from Haslemere, Surrey, in 1908, in order to be nearer London and more accessible from the North, and to get electric power.—*St. Edmundsbury Weaving Works.*

We came to Letchworth because we could get more room and a better life for our employees than in London. We are certain that we have given their lives a better chance altogether, especially in the fact that we have at least doubled their hours of leisure, as they are close to their employment and save the fearful waste of time in travelling.—*J. M. Dent and Sons, Limited.*

The facilities offered for establishing an industrial undertaking in more healthy and congenial surroundings than were possible in London.—*Marmet, Limited.*

London works not large enough to cope with increasing demand for our product.
*The Westinghouse Morse Chain Company, Limited.*

To obtain larger accommodation.—*Lloyds and Company (Letchworth), Limited.*

Letchworth was selected as a site owing to its proximity to London and the availability of suitable land.—*Kryn and Lahy Metal Works, Limited.*

Lease expired in London. Letchworth offered good terms for building and facilities for extensions, and housing for employees.—*British Tabulating Machine Company, Limited.*

### Has your experience of Letchworth as an industrial centre been satisfactory?

Generally, yes. It would have been more satisfactory had Letchworth been ten miles nearer London.—*J. M. Dent and Sons, Limited.*

Entirely.—*The Spirella Company of Great Britain, Limited.*

Yes.—*The Country Gentlemen's Association, Limited.*

Yes.—*D. Meredew.*

Yes.—*Kosmos Photographics, Limited.*

Yes.—*W. J. Brooks and Company.*

Yes, on balance of considerations.—*Foster Instrument Company.*

Not altogether. Skilled lens workers prefer the amenities of a large town, and country folk are difficult to train.—*Kryptok, Limited.*

Quite satisfactory in every way.—*The Brown Manufacturing Company, Limited.*

### Can you indicate the advantages you have found in Letchworth as an industrial centre?

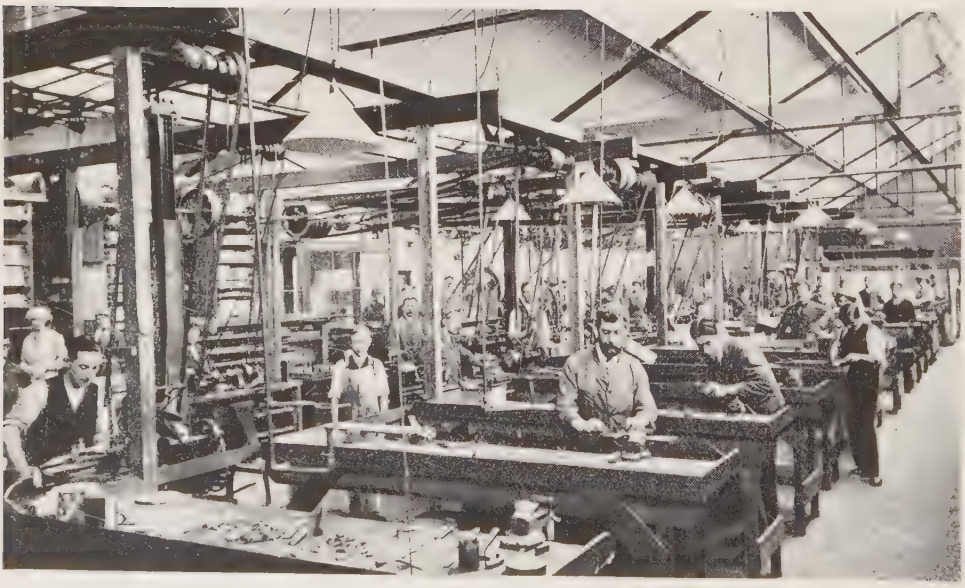
The stamina of the employee in Letchworth is greater than in an overcrowded industrial area, and in a self-contained community such as we have closer individual touch with the worker

LETCHWORTH: PART OF MACHINE-ROOM, GARDEN CITY PRESS

*C. H. Hignett, Architect.*

LETCHWORTH: A FACTORY PRODUCING OFFICE APPLIANCES

LETCHWORTH: A SCIENTIFIC INSTRUMENTS WORKS



LETCHWORTH: AN INTERIOR VIEW OF THE ABOVE WORKS

is obtainable, with the result that the estrangement between employer and employee is less marked than in the larger towns.—*Spirella Company of Great Britain, Limited.*

We enjoy the general advantages of fresh air, better light, and the advantage of being able to live near our work; on the other hand, when we need extra hands we have to send to the larger towns for them as ours is a highly skilled trade; this is a rather serious handicap at times.

*Furmston and Lawlor.*

Good housing conditions; no overcrowding; no drink.

*The Westinghouse Morse Chain Company, Limited.*

Clean, healthy environment for all engaged in the industry.

*Country Gentlemen's Association, Limited.*

Cleanliness, good water and railway facilities.—*Garden City Pure Food Company, Limited.*

The families who came here in order that one or two members might enter the weaving works are much better off as far as health, housing, friends and recreation are concerned.

*St. Edmundsbury Weaving Works.*

Experience we have indicates that we get a far more regular and punctual attendance on the part of our employees than a similar firm in a large industrial town. At the same time the increase in the size of this town up to 30,000 or 40,000 inhabitants will help us in many ways, making it more attractive to such skilled employees as we need to draw from the larger industrial centres.

*Bowyer-Lowe Company, Limited.*

We believe that in many cases the type of man which stays in Letchworth is very often of a good type, though it is sometimes difficult to obtain such men, as they do not like to leave the large centres where there is plenty of life and arrangements for amusements. When the best type come to Letchworth, we think, however, that they stay.

*The Heatly-Gresham Engineering Company, Limited.*

Given equal geographical advantages as to climate, soil, etc., there can be no question that the small isolated town is much healthier, and to that extent must increase the efficiency of production of a factory, although it is very difficult to trace that effect and to quote "chapter and verse."

The fact that the majority of employees can live fairly near the factory, so that the time occupied to and from the factory is short, and they are not at any expense as it is only a short walk or bicycle ride, is, of course, a positive advantage to the pockets of the employees. In relation to my particular business, it does not react directly to the advantage of the pocket of the employer because the rates of pay are the same as in London.

The majority of the employees are able to go home to their midday meal which, on the whole, is an advantage, though I believe, in the case of some young married couples, the fact that this necessitates the wife staying in the house at midday is not altogether much appreciated by her as an advantage. In the case of a man with a family it is probably an entire benefit.

The result is, of course, that the employee spends less time away from his home in work and travelling, and has more time for leisure. Theory would indicate that it was desirable that some of this extra leisure was devoted to technical or general education, but experience shows that it is not so, except so far as an extreme minority are concerned.

There is a material advantage in the time spent in the factory office as compared with the office in, say, central London, where the common experience is that the office is not actually in full swing till 10 A.M., and begins to empty at 5 P.M. For the same length of time away from their homes, the office staff in Letchworth can work from 9 till 6. Against this advantage for the office may be set the fact that communications with customers and suppliers more frequently involve the expense and delay of trunk calls than when the factory is in a large city.

In a large city, for such a business as mine, there would be quite an appreciable amount of local business which could be done at small selling expense; in Letchworth the amount of local business is almost negligible and must be in any such small place.

With regard to the supply of labour. So-called unskilled adult labour is largely only obtainable in an isolated garden city by drawing from the surrounding agricultural districts. Skilled adult labour has always to be imported, for a small manufacturing town on garden city lines will not probably have many firms employing the same class of labour and, in any case, the shifting about of that labour from one local firm to another is not, as a rule, a desirable thing either for the employee or the employer. With regard to this adult imported skilled labour, any unmarried man is fairly easily persuaded to come to Letchworth, but is liable to find it dull as compared with the available choice of amusements in a large city, and he usually drifts away in the winter. For the married man with a family, a move, say from London, is a big undertaking, and cannot easily be achieved without some form of assistance or guarantee from the employer. The employer, once having got the man down to Letchworth with his family, is under some amount of moral obligation to keep the man on, even though he should prove unsatisfactory.

One important result, in my business, from the foregoing considerations, is that my employees are largely recruited from boys and girls leaving the local schools, and in Letchworth we are fortunate in having skilled management, which does produce and select a considerable proportion of promising youngsters.

The senior staff and selling organisation of a manufacturer will of necessity have to make frequent visits to the central business portion of the nearest large manufacturing town (London in this case). As compared with a factory, say, in a London suburb, Letchworth is at a disadvantage in this respect, the return journey involving, approximately, an hour longer than in the case of the suburb.—*C. E. Foster* (*Foster Instrument Company*).

The employees enjoy good health.—*Garden City Press, Limited.*

Supply of suitable employees. Space. Healthy conditions. Nearness of London an advantage, particularly for export business.—*Brown Manufacturing Company.*

The only particular advantage of Letchworth as a site for a steel foundry and engineering works is the good railway facilities and the availability of a fair supply of unskilled labour. And it is just worth mentioning that, in spite of the serious disadvantages of the necessity of bringing raw material 100 miles or so further south than is the case with manufacturers in Sheffield, we are, nevertheless, able to compete most successfully in our trade.

*Kryn and Lahy Metal Works, Limited.*

## What are the improvements needed in Letchworth from a manufacturer's point of view?

Cheaper power and transport.—*J. M. Dent and Sons, Limited.*

The improvements needed immediately are a more rapid development. The advantages of being in Letchworth will be trebled as compared with its present size when the town has a population of 35,000. The disadvantage of being in a small town is the limited amount of trained or skilled labour available, allowing of very little latitude or interchange between the works. Further improvements needed are an improved train service, both passenger and goods, postal facilities arranged to cope with sudden rushes in business, and improved educational facilities, especially of a technical nature, whereby we can train our own boys and girls to become skilled tradesmen, instead of their having to drift away to other towns for this training, and for Letchworth to import skilled labour from the outside.—*Spirella Company of Great Britain, Limited.*

Cheaper gas and electricity. A competitive railway service.—*Marmet, Limited.*

Better railway service. Cheaper gas and electricity. An essentially lower rating valuation.

*Westinghouse Morse Chain Company, Limited.*

Improved direct rail facilities.—*Lloyds and Company* (*Letchworth*), *Limited.*

Cheaper rail rates.—*Garden City Pure Food Company, Limited.*

Better rail service, both goods and passenger.—*Letchworth Printers, Limited.*

More ample provision for housing workpeople.—*D. Meredew.*

Increased railway facilities, especially with the Midlands.—*Speedwell Press, Limited.*

Better train service, both goods and passenger. The railway company wants moving, if such a thing is possible. It is cheaper to send printed matter from Bungay to London than from Letchworth to London—an absurd position. More housing accommodation.

*Garden City Press, Limited.*

In our special case, an improved road transport to London.

*Brown Manufacturing Company, Limited.*

The two chief improvements needed in Letchworth are:

1. Adequate housing for operatives: the lack of houses being at present a tremendous handicap; and

2. A cheaper supply of electricity.—*Kryn and Lahy Metal Works, Limited.*

Better railway connections for delivery of goods from Letchworth to the west and north-west are required.—*Country Gentlemen's Association, Limited.*

Cheaper electricity for power. Better train service.—*Bowyer-Lowe Company, Limited.*

Much better train service. The housing problem is a very acute one here, and it is difficult to get people from away because of the difficulty of obtaining houses.

*Kosmos Photographics, Limited.*

These replies are worth careful study. It will be noted that nearly all the manufacturers ask for better railway facilities, and it can be taken as certain that all, without exception, would agree that better facilities and lower railway rates are urgently needed. It may be supposed that however good such facilities might be, and however low the rates, firms would still wish them better and lower; but in this as in other respects the position at Letchworth is such that the town may be said to have been established despite forces that if not hostile to it were by no means actively helpful. The demand that is indicated for improved postal services is of the same nature. Neither the railway company nor the postal authorities or any other public body or service can be said to have taken an active part in encouraging the growth of the town. The demand had first to arise before response was made to it. This suggests some of the difficulties that the town has had to overcome. The shortage of houses, which still exists in spite of the truly remarkable efforts of the district council and others to get as many built as possible, indicates that some special provision should be made for cottage-building in a garden city if its development is to proceed as quickly as it might do. It is interesting to observe that the manufacturers appreciate the saving of time to themselves and their employees of living within a short distance of the place of work. That the town will be a better place for industry when it is larger is emphasised by some manufacturers, and probably would be agreed to by all of them. Indeed, many of the labour difficulties that have been and are still being

encountered are largely due to the population being too small to provide sufficient social and other advantages to attract labour and keep men and their families contented. The more intelligent workmen almost invariably like Letchworth, especially after they have got accustomed to it, and a large proportion of them undoubtedly appreciate the good houses, gardens, open air, and opportunities for a healthy life; but there are others, especially among the unmarried men, who find the place dull. This deficiency of popular amusements will be overcome as the place grows, though it will never have the variety of distractions of London and the large cities; neither is it desirable that it should. This difficulty, it may be observed, is not felt by those who are able to entertain themselves, but by the large numbers of people, in all walks of life, who depend upon some outside source for their amusement and recreation. Incidentally this matter brings us to the problem of the relation of the size of a town population to the amenities and social activities that are desired by all classes of people to-day. A town of 10,000 or 20,000 inhabitants is not sufficient for modern needs. This is why a garden city is conceived of as a town large enough to provide the variety of entertainment, sports, and employment that is demanded. Letchworth has at present a population of 13,000; when it reaches 20,000 it will be a greatly improved town, and its ultimate population of 35,000 is probably the minimum that should be aimed at.

All the manufacturers are agreed as to the healthiness of the town and its effect upon the employees. In 1918, a manufacturer who had had some years' experience of the town said at a discussion that took place at a meeting of the local authority:

> In Letchworth the health of his own workpeople was so good, and the amount of time that they lost from ill-health or other causes was so small, that when he showed his books to friends running works in other towns, they did not believe him. At his own works he had had whole weeks during which, with 250 people, the total loss of time had been less than three hours. If this was not caused by the influence of garden city, what was the cause? [1]

Some of the manufacturers were asked if they were satisfied from their experience at Letchworth that industry can be conducted better in a garden city than in an overcrowded city, and they all, practically without exception, answered in the affirmative.

[1] *Garden Cities and Town-Planning*, vol. viii. p. 53 (1918).

§6

The development of industry is the predominant element in Letchworth, and the keynote of its success. It was not easy to get manufacturers to take the considerable risks of moving there in the early days of its history, and those who were bold enough to take the step are to be congratulated upon the part they played in establishing the town. It is noteworthy that the manufacturers are now seeking to link up industry with the life of the town and with the education and training of its young people.

# CHAPTER V

## THE PUBLIC SERVICES

I see a City being wrought
Upon the rock of Living Thought.
It was a bloodless dream until
It quickened in a good man's will,
Became a hope, became a vow,
For one, for many, until now
Upon the rock of Living Thought
I see the City being wrought.

HENRY BRYAN BINNS (Letchworth, 1909).

§ 1

WHEN the Letchworth estate was purchased the area was purely rural. There were three lengths of roads belonging to the county council and several unmetalled roads vested in the rural district council; the railway ran through the estate, but there was no station nearer than Hitchin, two and a half miles from the centre, Baldock being about the same distance in the opposite direction. There was no water, drainage, gas or electricity. The Garden City Company had therefore to provide all the public services. It had a free hand; for not only was there no authority with any rights or powers over its estate, with the exception of the Hitchin Rural District Council, but the company itself, as owner of the estate in fee-simple, possessed all the rights that were necessary for carrying out the scheme. The company was subject to the bye-laws of the rural district council, but these did not interfere with anything the company desired to do. On the other hand, the company had no special statutory powers beyond those that every owner of land enjoys. The Garden City Company therefore constructed the roads in accordance with its town-plan, designed and laid down its own sewerage system, and constructed water, gas and electricity works.

§ 2

Broadway, the main highway, was designed 100 feet between boundaries, with a 27-foot metalled carriage-way from Hitchin Road to

the town square, and 9-foot paths on each side. A short section of this road, from Hitchin Road to Spring Road, was first constructed, and it has recently been completed throughout its entire length. As originally planned an area of 33 feet was reserved on one side of the road for a tramway; but the development of motor transport has shown this to be unnecessary. The northern end of Broadway from the station to the town square consists of two 18-foot carriage-ways, with 12-foot footpaths; the space between the carriage-ways being laid out with two 12-foot greenswards, planted with trees and shrubs, and a 16-foot gravel walk down the centre.

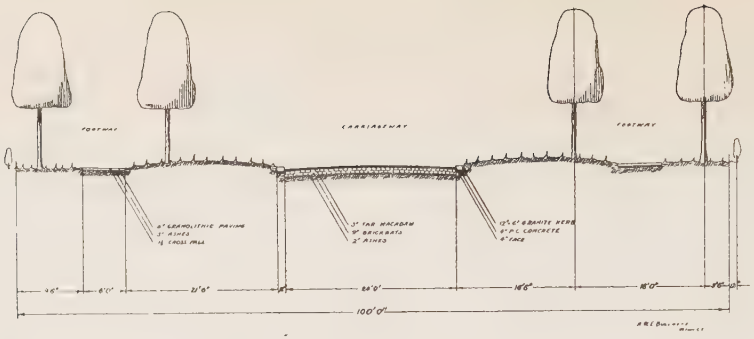
Norton Way, which has been the main highway of the town hitherto, is 60 feet between boundaries, with a 16-foot carriage-way, and 12-foot greenswards and 10-foot paths on each side. This is a residential road.

Leys Avenue, the principal shopping street, is 50 feet between boundaries, with a 24-foot carriage-way, and was originally laid out with 16-foot greenswards and 5-foot paths, the lessees of the shops providing 10 feet of paved footway in front of their premises. It was found, however, that the footpaths were too restricted, and that in a road with such heavy foot-traffic the greenswards suffered badly; in the endeavour to preserve them they were reduced in area and railed in, but this did not save them and they ultimately had to go.

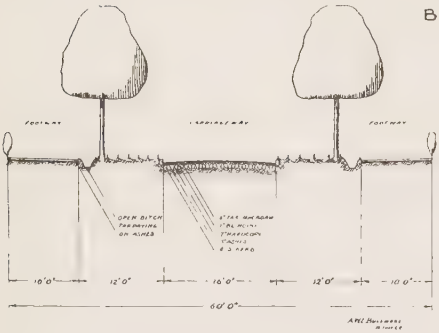
Sections of the various types of road are given on the next page. The original roads made by the company were well constructed, and their widths were considered sufficient for the traffic they were expected to bear; that the company was right in this is shown by the fact that after twenty-one years the carriage-ways of only five roads have had to be widened—Station Road, Works Road, Gernon Road, Commerce Avenue and Eastcheap. The greenswards that are left by the sides of the carriage-ways will allow, however, for future widenings throughout the town whenever they may be required.

Roads of the *cul-de-sac* type have been used for cottage-building in the town, but hitherto not for other classes of building. It has been found that where provision is not made in such roads for through foot-traffic a certain amount of inconvenience is caused, and the council has now adopted the policy of putting in footpaths to carry such traffic.

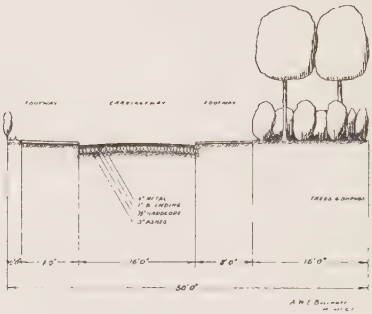
The maintenance of the grass margins to roads has always given a certain amount of trouble. Experience at Letchworth shows that the margins need protection until they are established; they need proper paths made across them from the roadway to the footpath in front of the




BROADWAY




NORTON WAY

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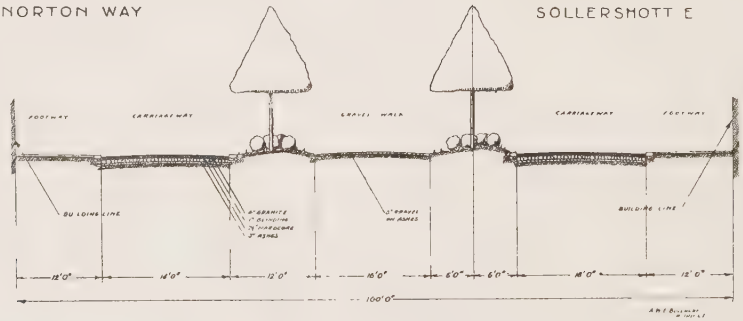
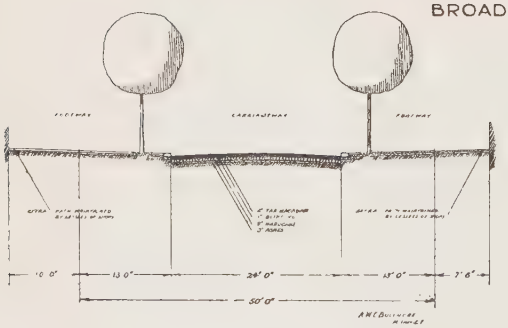
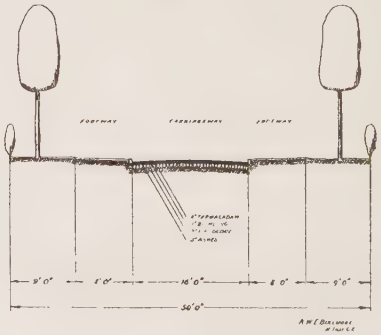



BROADWAY NORTH END




LEYS AVENUE




HILLSHOTT

LETCHWORTH: SOME TYPICAL ROAD-SECTIONS

entrance to every building; they need to be cut at intervals, and kept neat and tidy. But the extent to which they can be maintained at all depends primarily upon the amount of foot-traffic to which the road is subject. In a road with little traffic narrow strips of margin can be well maintained, though footpaths are also narrow. But where traffic is considerable wide footpaths are necessary, and in shopping areas, or wherever there is much standing wheeled traffic, it is not possible to preserve them at all. Low iron fences were used for a time to protect the margins in busy streets; but people fell over them in the dark, and the margins had ultimately to be abandoned.

The length of new roads at the end of each year is as follows:

| Year | Miles of Roads | Year | Miles of Roads |
|---|---|---|---|
| 1905 | 5¼ | 1915 | 12½ |
| 1906 | 6¾ | 1916 | 13 |
| 1907 | 8¼ | 1917 | 13¼ |
| 1908 | 8¼ | 1918 | 13¼ |
| 1909 | 9¼ | 1919 | 13¼ |
| 1910 | 9½ | 1920 | 13¼ |
| 1911 | 9¾ | 1921 | 16¾ |
| 1912 | 10½ | 1922 | 16¾ |
| 1913 | 11½ | 1923 | 17 |
| 1914 | 12 | 1924 | 18 |

The chief engineering work in connection with the highway development, apart from the construction of the roads, was a new bridge to carry the railway over Norton Way. There was originally, when the line was built, a small "cattle-creep" under the railway, which at that point is on an embankment, to provide access to the land on each side for farming purposes. This narrow passage-way was connected up with Norton Way and provided the only means, except for a footbridge near the station, of communication between the two parts of the estate separated by the railway up to as late as 1911. The new bridge was constructed by the railway company in 1911, the cost (including the roadway) being contributed in the following proportions:

| | |
|---|---|
| First Garden City, Limited . . . . | £2,600 |
| Great Northern Railway Company . . . | £1,900 |
| Hertfordshire County Council . . . . | £2,000 |
| Hitchin Rural District Council . . . | £1,500 |
| (of which £1,000 was charged on the parish of Letchworth) | |

A second bridge is expected soon to be constructed near the station, replacing a foot-bridge which was erected in 1906, which will connect

Broadway with the northern part of the estate. A foot-bridge is also proposed near Dunham's Lane in the factory area.

In addition to the roads constructed by the company, the Hitchin Rural District Council made up Green Lane and part of Works Road in 1908, at a cost of £2000, of which just under a third was charged on the district, the balance being a charge on the parish; certain work was done to Icknield Way (a pre-Roman track which runs through the town), the company having first made the road, and to Dunham's Lane, the cost in each case being divided between the district and the parish.

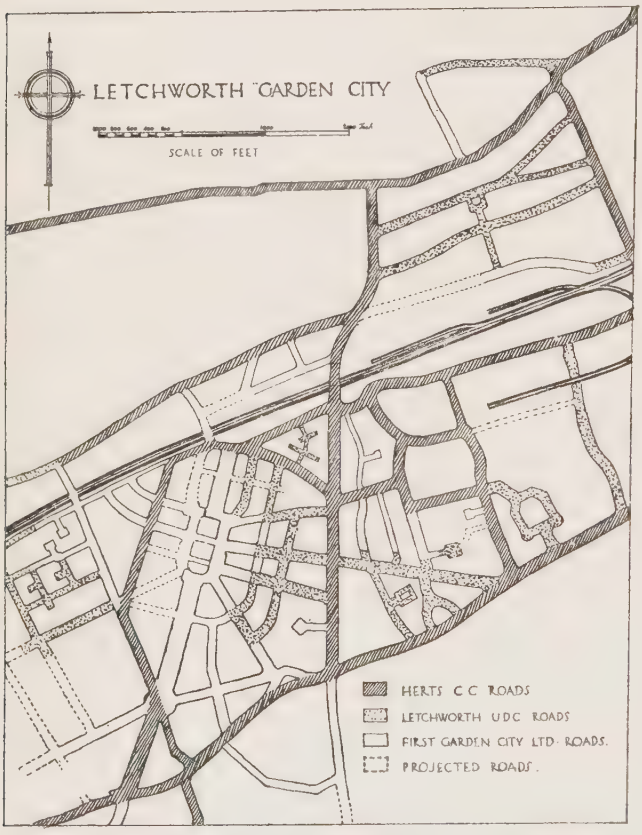



DIAGRAM SHOWING LETCHWORTH ROADS AND THE BODIES RESPONSIBLE FOR THEIR MAINTENANCE

The first roads were constructed under contract; but afterwards the company undertook the work by its own staff. The roads made for the urban district council's housing schemes were constructed for the council under contract as part of the housing scheme. Since the war the company has put the roads out to contract.

The upkeep and maintenance of the roads is undertaken by the company until the roads are taken over by the local authority, and paid for by the lessees in proportion to the length of the frontages of their property under the covenants of the leases granted by the company. In 1911 the Hertfordshire County Council took over a large number of roads for maintenance at the public expense, and further roads have since been taken over by the county council and

the urban district council. The position at Letchworth is now that some roads are still in the hands of the company, the lessees being liable for maintenance, some are in the hands of the district council, the ratepayers being liable for maintenance, and the rest are under the county council, the costs of maintenance falling on the county rate.

The roads were first lighted by gas, but the district council is now replacing the gas lamps gradually by electricity, and all new lighting is done by electricity.

## §3

The drainage system for the town as a whole was designed for the company by the late G. R. Strachan, and under that system practically the whole of the town area can be drained by gravitation. The separate system of drainage was adopted. In the first instance the sewage was disposed of on temporary sites by means of broad irrigation, the area being gradually increased up to about 110 acres; there were also two small subsidiary disposal areas of about an acre each.

The maintenance of the sewers and the costs of sewage disposal were at first paid for by the lessees under the covenants of the leases granted by the Garden City Company; the company levying a charge equivalent to 4*d.* in the £ on the poor-rate assessment of the property connected to the sewers up to 1915, in 1916 it was 6*d.*, in 1917 5*d.*, in 1918 and 1919 6*d.*, in 1920 8*d.*, and in 1921 9*d.* In 1922, at the request of the company, the responsibility for sewage disposal was undertaken by the urban district council (upon which body, as the sanitary authority, it really lay), and the company conducted the sewage farms on behalf of the council, the costs being included in the general district rate. The temporary works proved satisfactory for a much longer period than was anticipated when they were installed; but in 1923 the urban district council decided that it was necessary to construct the permanent works in accordance with the original scheme; and after public enquiry this was done by the council at a cost of £45,000, on an area of about 30½ acres on the extreme northern boundary of the estate.

Apart from open ditches the company did comparatively little in the way of surface-drainage, advantage being taken of a brook which ran through the town. The district council is now gradually laying surface-water sewers throughout the town.

The following are the lengths of sewers laid by the company:

| Year | Miles of Sewers Laid | Year | Miles of Sewers Laid |
|---|---|---|---|
| 1905 | $3\frac{3}{4}$ | 1915 | 18 |
| 1906 | $8\frac{3}{4}$ | 1916 | 19 |
| 1907 | 10 | 1917 | $19\frac{1}{4}$ |
| 1908 | 11 | 1918 | $19\frac{1}{4}$ |
| 1909 | $11\frac{3}{4}$ | 1919 | $19\frac{3}{4}$ |
| 1910 | $12\frac{1}{2}$ | 1920 | $19\frac{3}{4}$ |
| 1911 | $13\frac{1}{4}$ | 1921 | 20 |
| 1912 | 14 | 1922 | 20 |
| 1913 | $15\frac{3}{4}$ | 1923 | $20\frac{1}{4}$ |
| 1914 | $16\frac{1}{2}$ | 1924 | 21 |

§4

Among other public services a burial-ground is provided by the district council, on land purchased from the Garden City Company. Refuse disposal is undertaken by the council as part of its sanitary duties. For some years the refuse was dumped at various spots on the agricultural belt, but the council has now constructed a pulveriser at a cost of £3500, which deals with 3000 tons of house-refuse per annum. Rags, paper and tins are sorted by hand, pressed and baled, and the remainder of the refuse is converted by the pulveriser into a material which makes an excellent fertiliser, which is readily disposed of. The net running costs of the plant, after crediting receipts from sales of rags, etc., and the fertiliser, amount to 4*s*. $8\frac{1}{2}$*d*. per ton, to which must be added the cost of collection, which is 3*s*. 5*d*. per ton.

§5

The water supply scheme was prepared by the late G. R. Strachan, and is carried on by the Garden City Company as part of its general business. The pumping station was placed just outside the town area on the Baldock Road, 300 feet above sea-level. The first borehole was sunk to a depth of 220 feet below ground-level, and was originally tested up to 6000 gallons per hour. The reservoir was constructed on the Weston Hills about a mile from the pumping station, and the top water-level in the reservoir is 465 feet above sea-level. In 1907 arrangements were made with the Baldock Urban District Council to include that town in the water supply, the water being taken by the council in bulk and distributed by them. The plant was extended in 1907, 1912, 1919 and 1924. The works have now a pumping capacity of 50,000 gallons per hour, with an equivalent stand-by plant. The mains vary from 12 inches to 3 inches, and the total laid at the end of

each year, together with the annual water consumption, are shown in the following table:

| Year | Miles of Main Laid | Million Gallons Pumped | Year | Miles of Main Laid | Million Gallons Pumped |
|---|---|---|---|---|---|
| 1904 | 5 | — | 1915 | 23¼ | 99 |
| 1905 | 12 | 10 | 1916 | 23½ | 136 |
| 1906 | 15 | 16 | 1917 | 23½ | 161 |
| 1907 | 15¾ | 22 | 1918 | 24 | 185 |
| 1908 | 16⅜ | 34 | 1919 | 24¼ | 177 |
| 1909 | 17½ | 41 | 1920 | 26 | 159 |
| 1910 | 18½ | 53 | 1921 | 27 | 151 |
| 1911 | 20 | 70 | 1922 | 27 | 147 |
| 1912 | 21 | 85 | 1923 | 27¼ | 178 |
| 1913 | 21¾ | 93 | 1924 | 27½ | 212 |
| 1914 | 22½ | 94 | | | |

The scale of charges is based on the ratable value of the premises served, or on volume metered. The water is of good quality though somewhat hard, and the undertaking is a very successful piece of engineering development carried out by stages.

## § 6

The relative advantages of gas and electricity were discussed when the estate was developed, and the Garden City Company decided to install gas works in the first instance. Charles Hunt designed the works, which were placed in the factory area, and started in 1905. The first unit was designed to supply six million cubic feet per annum, but the first full year of working showed a consumption of five million cubic feet, and the second no less than twelve million. The works had therefore to be extended at once and extensions have since been almost continuous. A large daylight consumption has been a feature of the works, owing to the quantities used by the factories and by the use throughout the town of gas stoves for domestic cooking. The length of mains laid and the annual consumption are shown in the following table:

| Year | Miles of Mains Laid | Cubic Feet in Millions | Year | Miles of Mains Laid | Cubic Feet in Millions |
|---|---|---|---|---|---|
| 1906 | 7¾ | 5 | 1916 | 18½ | 86 |
| 1907 | 11¾ | 12 | 1917 | 18½ | 103 |
| 1908 | 13 | 22 | 1918 | 18½ | 113 |
| 1909 | 13¼ | 26 | 1919 | 18¾ | 92 |
| 1910 | 14¼ | 32 | 1920 | 19½ | 104 |
| 1911 | 14¾ | 40 | 1921 | 20 | 97 |
| 1912 | 15½ | 50 | 1922 | 21 | 100 |
| 1913 | 16 | 60 | 1923 | 21½ | 108 |
| 1914 | 17¼ | 65 | 1924 | 22 | 118 |
| 1915 | 18¼ | 69 | | | |

§ 7

The demand for electricity had to be met, and the Garden City Company's electrical undertaking was started in 1907, and is now the largest of the public works owned by the company.

Messrs. O'Gorman and Cozens-Hardy were responsible for the lay-out of the electrical plant and main system. The supply is direct current generated at a pressure of 500 volts, and distributed on the three-wire system. The original plant consisted of two horizontal suction gas engines driving two dynamos, each capable of 65 kw. output. From the commencement there was a constant demand for industrial purposes, and in 1910 it was necessary to install a direct-coupled Diesel engine of 135 kw. output, and in 1912 a 385 kw. 4 cylinder, direct-coupled Diesel set was installed. By the year 1913 the units sold had increased to half a million, the average charge for power being one penny per unit and for lighting fivepence per unit. During the early part of the war, when practically all the factories were engaged on munition work, it was very difficult to keep pace with the demand. Extensions to the building became necessary in 1915, and three Diesel sets totalling 540 kw. were installed. Less than a year later the plant was further increased up to a total of 1445 kw., but even this was insufficient. In October 1916 a 1000 kw. steam turbine and condenser and auxiliary machinery was put into service, and from this date to the end of the war the whole of the plant, totalling 2445 kw., was running at upwards of 60 per cent. load factor. In 1921 a further 1000 kw. steam turbine was installed and four of the smaller Diesel and gas engine sets were sold. This change brought the total capacity of the station to 2890 kw. The electricity supply was first given within the industrial area only, but the mains were gradually extended until practically the whole town area was served. The total length of main cable laid and the units consumed each year are shown in the following table:

| Year | Miles | B.T. Units | Year | Miles | B.T. Units |
|---|---|---|---|---|---|
| 1908 | ½ | 44,017 | 1917 | 11 | 7,151,878 |
| 1909 | 1¼ | 91,400 | 1918 | 11 | 8,911,800 |
| 1910 | 2 | 148,176 | 1919 | 12 | 3,361,500 |
| 1911 | 2¾ | 217,528 | 1920 | 14 | 2,455,500 |
| 1912 | 3 | 415,650 | 1921 | 15 | 1,936,600 |
| 1913 | 5 | 501,572 | 1922 | 16½ | 1,912,340 |
| 1914 | 5½ | 513,286 | 1923 | 18½ | 2,718,450 |
| 1915 | 8 | 840,931 | 1924 | 20 | 3,432,000 |
| 1916 | 10½ | 3,854,057 | | | |

In view of the great extension of the works and the demand for current from the surrounding district, application was made to the Electricity Commissioners for a provisional order placing the supply on a statutory basis and under statutory control, which was granted in 1924; the order covers the urban districts of Letchworth and Baldock, the parish of Willian, and parts of the parishes of Radwell and Stotfold. A further order has been sanctioned by the Electricity Commissioners extending the supply to Biggleswade.

## § 8

The circumstances at Letchworth with regard to the gas, water, and electricity supply undertakings are somewhat peculiar. The undertakings, as already stated, were not established under any parliamentary powers, and with the exception of the electricity supply since 1924 are therefore apparently almost wholly outside the law dealing with such works. The supplies are made to the inhabitants subject to agreement between the company on the one hand and to the consumer on the other. Apart from this agreement there is nothing to compel the company to give supplies (other than the supply of electricity since 1924), though they are offered as far as possible to every tenant on the estate as they constitute important auxiliaries to the development of the town.

The undertakings are used, that is to say, not merely for the sake of the profits they may directly earn, but primarily as adjuncts to the company's main business, which is the development of the town. It will be seen, therefore, that it may occasionally happen that extensions of the works may be carried out with the object of facilitating the development of the town when, strictly in relation to the particular undertaking, they are not required, and are unproductive. A certain amount of immediately unprofitable expenditure is probably inevitable in any such undertakings operating on such an estate as at Letchworth; and even if they did not form a part of the main undertaking, but were carried on entirely on their own account, it is probable that they could not escape some loss. For example, owing to the number of unlet plots on roads otherwise fully developed, the mains laid, together, perhaps, with a proportion of expenditure at the head works, would not be fully remunerative. In cases of that kind it is probable that an independent company might consider it advisable to cover its loss by increasing the charges to consumers. It is not, however, to the interest

of the Garden City Company to pursue that course; for it is necessary to it as a land development organisation that the charges for such supplies should be as low as is practicable. Indeed, in the case of the electricity supply station, a reduction was actually made in the charges at the beginning of 1913 in order to encourage factory development, although it caused a heavy reduction in the profit made by the station. The company has always maintained these supplies at a high standard of efficiency, which could not have been improved upon by undertakings with statutory powers and greater financial resources; they are now valuable assets to the company and highly profitable.

§ 9

The steps taken to secure a railway service have already been related. A temporary station was built and opened for traffic in 1905. The permanent station was not constructed and opened until 1912. The goods yard was opened in 1905. The railway company acquired from the Garden City Company a total of 24½ acres for this and other railway purposes. The train service was gradually increased and improved as the population grew, under the continued pressure of the inhabitants of the town and the Garden City Company. The station has a large goods traffic. The town has railway connections through Cambridge with the Great Eastern section of the railway, and through Hitchin with the London and North-Eastern main line; and also through Hitchin with the London, Midland and Scottish Railway *via* Bedford.

§ 10

Apart from the railway there was no regular transport between Letchworth and the surrounding towns until 1912, when a motor-omnibus service was established between the town and Luton, *via* Hitchin. For some years prior to that date the Garden City Company had run a horse-omnibus service in the town; the new motor service, however, covered the same route and the company's service was discontinued. With the development of road transport within recent years the town has connections by motor bus throughout the district.

LETCHWORTH: NORTON VILLAGE, THE THREE HORSE SHOES INN AND THE CHURCH

LETCHWORTH: ON THE AGRICULTURAL BELT

LETCHWORTH: A SUCCESSFUL SMALL-HOLDING OF TWO ACRES, WORKED IN CONJUNCTION WITH OTHER EMPLOYMENT

LETCHWORTH: THE ABOVE SMALL-HOLDER'S COTTAGE

# CHAPTER VI

## AGRICULTURE

It is further asked: When are men, living in the same place, to be regarded as a single city—what is the limit? Certainly not the wall of the city. . . .—ARISTOTLE, *Politics*, iii. 3.

### § 1

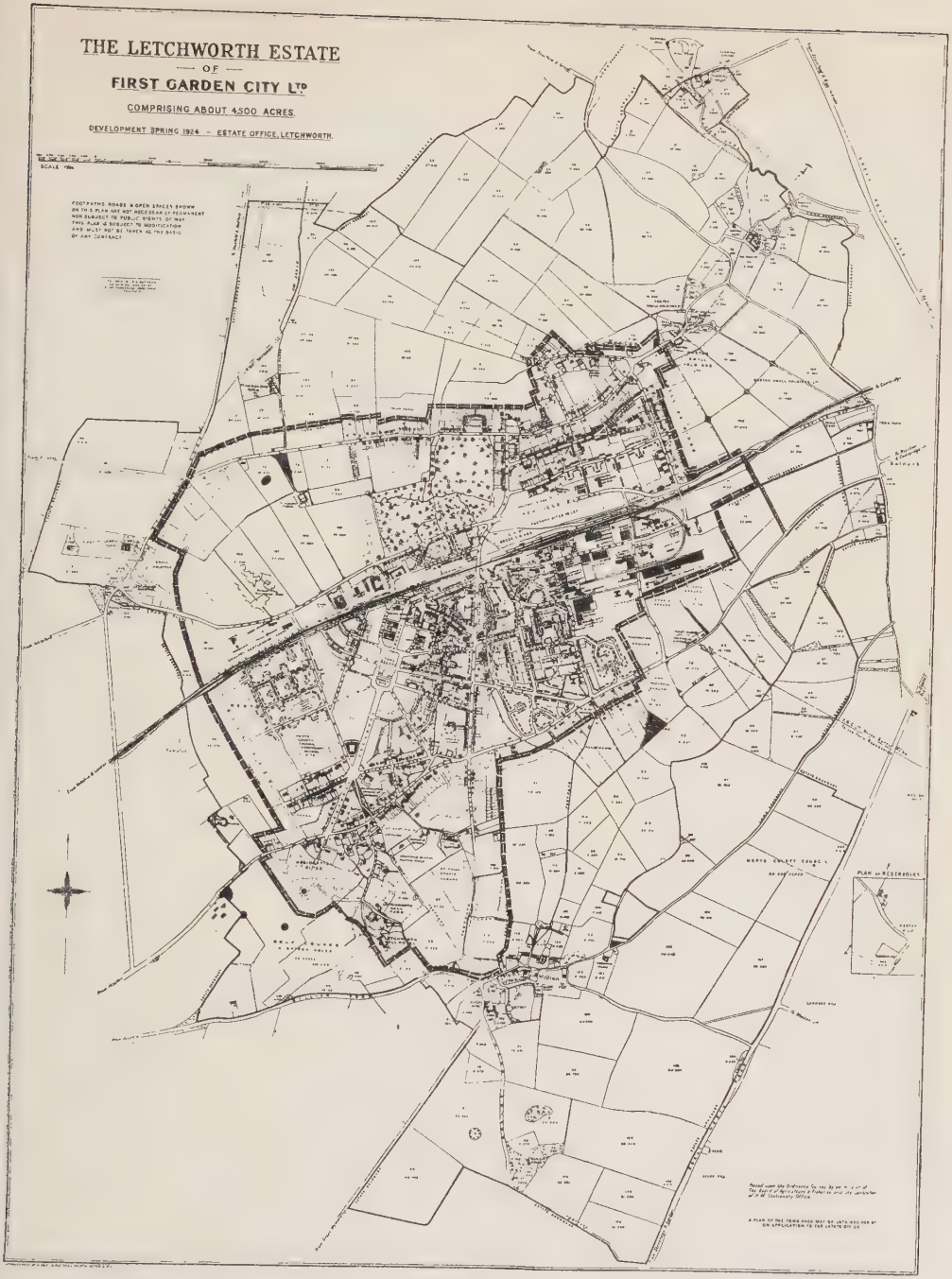
ONE of the main social objects of the garden city was to help to stem the tide of rural depopulation by combining the attractions of town and country life. This aim was in the forefront of the minds of the promoters of Letchworth, and was among the first matters considered in connection with the development of the town. The total area of the estate when originally purchased was 3822 acres, of which it was decided to retain the greater part as an agricultural belt. With purchases that have since been made the area of the estate is now 4548 acres, of which the agricultural belt is just over 3000 acres. With the exception of one or two comparatively small residential properties the whole of the estate when purchased was in agricultural occupation, about one-third being pasture and the rest arable. There were nine farms between 252 and 842 acres, at rents ranging from 8*s.* 6*d.* to 25*s.* per acre, and four smaller holdings from 2 to 79 acres, at rents from 16*s.* to 43*s.* per acre, and 15 allotments with a total area of 5 acres let at 44*s.* an acre. As the low rents suggest, the properties were as a whole badly neglected, some of the buildings not having been repaired within the knowledge of any local resident, and much of the land being poorly cultivated. Comparatively little labour was employed; the total population was 400, of which a considerable number was not employed on the estate. The following table gives the particulars of the principal holdings in 1903:

| Farm | Area in Acres | Rent per Acre | Farm | Area in Acres | Rent per Acre |
|---|---|---|---|---|---|
| 1 | 462 | 12*s.* 6*d.* | 8 | 371 | 13*s.* 6*d.* |
| 2 | 842 | 16*s.* 0*d.* | 9 | 388 | 25*s.* 0*d.* |
| 3 | 278 | 17*s.* 0*d.* | 10 | 265 | 16*s.* 0*d.* |
| 4 | 293 | 8*s.* 6*d.* | 11 | 55 | 16*s.* 0*d.* |
| 5 | 79 | 25*s.* 0*d.* | 12 | 14 | 43*s.* 0*d.* |
| 6 | 484 | 22*s.* 0*d.* | 13 | 2 | 19*s.* 6*d.* |
| 7 | 252 | 16*s.* 0*d.* | | | |

With one or two exceptions the farms were held under yearly tenancies, and immediately on completion of the purchase in 1903 the tenants were given notice to quit, new agreements being entered into with most of them on their consenting to give up possession of one-tenth of their holdings in any one year if required on payment of the usual compensation. Some of the tenants were resentful at the sale of the land and the disturbance caused to their affairs, and expressed their dissatisfaction by creating as many difficulties as possible. Fortunately the two men holding the land in the centre of the estate were sympathetic to the objects of the company, which facilitated the early stages of development. It must be recorded, however, that the presence of the farm tenants, however friendly, was embarrassing until the area upon which the development of the town was to start came fully into the company's hands. That did not happen for some years, for the farmers were allowed to go on with their cultivations (though to a decreasing extent) until well into 1910, when the company took over all the land in the town area and began to lay it down to grass or farm it themselves. The farm tenancies were gradually re-arranged, the larger farms being divided into smaller holdings so far as the number of homesteads permitted, the buildings being repaired and improved, the standard of farming raised, and the rents increased to a more economic figure.

§ 2

The "back to the land" propaganda of the times was very strongly felt, and a conference on the subject of small-holdings was held at an early date. Many people considered that the company should adopt a definite policy in connection with encouraging small-holders to settle on the estate, and the directors were not averse to such a policy in principle; but the company did not have the capital to provide cottages and buildings, so that of the many hundreds of applicants for land that were received only those could be dealt with who had sufficient capital to build for themselves. The company offered such applicants a quarter-acre site or thereabouts on a 99-year lease, for the building of a cottage, and an area of agricultural land attached to the sites on lease for twenty-one years. The men who had the capital to accept such an offer were few, and among them those who had experience of agriculture were fewer still. In 1907, in pursuance of its sympathetic policy


THE LETCHWORTH ESTATE
— OF —
FIRST GARDEN CITY Ltd
COMPRISING ABOUT 4,500 ACRES.
DEVELOPMENT SPRING 1924 – ESTATE OFFICE, LETCHWORTH.
SCALE 1 Mile
FOOTPATHS, ROADS & OPEN SPACES SHOWN ON THIS PLAN ARE NOT NECESSARILY PERMANENT NOR SUBJECT TO PUBLIC RIGHTS OF WAY. THIS PLAN IS SUBJECT TO MODIFICATION AND MUST NOT BE TAKEN AS THE BASIS OF ANY CONTRACT
PLAN OF RESERVOIRS

PLAN OF LETCHWORTH SHOWING THE AGRICULTURAL BELT OWNED BY THE GARDEN CITY COMPANY

towards small-holdings, the company organised an exhibition of houses and buildings suitable for small-holders. Although the company took care to accept as tenants only those applicants who seemed to show most promise, none was ultimately successful.

With a view to assisting in the establishment of small-holdings, a society called Norton Small Holdings, Limited, was formed in 1905 by Mr. E. O. Fordham, Lord Lucas, Sir Richard Winfrey, and Mr. C. R. Buxton, for the purpose of renting about 150 acres from the company with a homestead and buildings and letting it off in small areas up to 20 acres. Twelve cottages were built by the society and let to carefully selected tenants, pigsties were erected, and about 10 acres planted with fruit. The intention was to assist men who had some knowledge of agriculture to run small-holdings with some measure of co-operation. The society paid the company 25*s.* an acre for land and let it to their own tenants at 35*s.* The undertaking was not successful, in spite of the hard work and enthusiasm of those who were interested in it.

The total number of agricultural occupiers is now just under eighty, compared with thirteen when the estate was purchased, the rents ranging from 25*s.* to 60*s.* per acre; and though the area of the estate under cultivation is considerably less than it was, owing to the growth of the town, the amount of labour employed in agriculture is probably three or four times as much as when the property was purchased.

## § 3

Although practically every house in the town has a garden in which vegetables can be grown, which provides as much land as the average man cares to work, the demand for allotments, though not so large as in a town with small gardens, is an increasing one, and the total area now let for that purpose is 38 acres, and the number of allotments is 230.

## § 4

The chief products of the agricultural belt are fruit and dairy produce. A small amount of land is used for market-gardening; but the land is not specially suitable for this purpose, being, in the main, rather exposed and needing considerable "making." Apples, pears and soft fruit are grown in quantity for the local market. The production of milk and other dairy produce is, however, the main agricultural industry.

It is not possible to tell to what precise extent the demands of the new town are met by the produce of the agricultural area. That the area does not fully meet the needs of the town is fairly certain. The production and distribution of produce is not organised in any way, and the attempts that have been made from time to time to get the smallholders and farmers to work together have met with failure. It would seem, however, that it would pay the town for the working of its agricultural belt to be so organised as to produce the maximum amount of foodstuff for the population. At some time in the near future it is possible that something of the kind may be seriously attempted. The endeavour to get a pure milk supply for the town in which many of the inhabitants are interested is a step in that direction.

## § 5

The agricultural belt of a garden city is a constituent part of the town's economy. It is as essential to it as its roads and water supply and other services. It is as necessary as recreation grounds or a shopping centre. The great advantage that Letchworth possesses is that the structure of the town definitely incorporates a large agricultural area. This land exists not as prospective building land upon which the agricultural industry has but a precarious hold, but as a real belt of rural land which can be maintained as such for all time. As the town grows the function of this land will grow in importance, and its significance will be even more unmistakably perceived than it is to-day. Its actual economic value as agricultural land will also increase, and more and more will it be to the advantage of everyone concerned that it should be worked to yield the utmost return. The effect of the garden city upon agricultural life can already be seen at Letchworth, although the rural belt is still the least developed part of the town. The agricultural population has been increased, the cultivation of the soil has enormously improved, wages are higher, and the condition of the farm worker, his outlook and interests, have been raised to the level of those of the town worker. On the other hand, the townsman and factory worker have been brought into immediate touch with the country. The population of the town, most of whom would otherwise have seen little if anything of the processes of nature on the land, are now as familiar with them as with any other incident of their daily lives. Some contact with agriculture, the original and basic industry of mankind, is still necessary

for a full education, and that contact is granted to all the children brought up in such a town as Letchworth.

The effect of the establishment of Letchworth is felt over a much wider area than the agricultural land actually in the hands of the Garden City Company or within the urban district. For ten miles around, the "city" is not London but Letchworth; throughout the whole rural district the villages have more money in them because of the existence of Letchworth, for there is not a village where there are not families with one or more members working in the town. The little town of Baldock is now almost entirely dependent upon Letchworth, all the villages have increased in size as a result of its existence, and the towns of Hitchin and Royston have grown as well.

It was claimed by the first advocates of garden cities that such towns would help to prevent rural depopulation by making rural life more interesting and profitable, by (1) enabling farmers to organise, (2) giving them a market at their doors, (3) helping to provide a more efficient class of labourer, and (4) bringing the rural worker in touch with urban life. That this claim was well founded Letchworth has already shown, and in nothing has the town more clearly demonstrated its sound economic basis, and in nothing has it more to promise in the future than in the marriage of town and country that it has brought into being.

# CHAPTER VII

## FINANCE

If the difficulties of building garden cities were infinitely greater than I have ventured to point out, they are very small compared with the prize to be won by the production of a physically superior, and contented and happy people. . . . We cannot attain any finer object, and it will be the means of placing our nation, as a nation, far ahead of any of our competitors.—Lord Leverhulme (June 1902).

### § 1

LETCHWORTH has been developed by First Garden City Limited,[1] a joint-stock company incorporated under the Companies Acts. The memorandum and articles of association of the company are similar in most respects to those of an ordinary public company. The chief special clauses in the memorandum are:

3. (*a*) To promote and further the distribution of the industrial population upon the land upon the lines suggested in Mr. Ebenezer Howard's book entitled *Garden Cities of To-morrow* (published by Swan, Sonnenschein and Co., Ltd., in 1902), and to form a garden city (that is to say) a town or settlement for agricultural, industrial, commercial, and residential purposes or any of them in accordance with Mr. Howard's scheme or any modification thereof.

(*c*) To found, lay out, construct, manage, and carry on any such garden city as aforesaid, or any section or portion thereof.

(*d*) To pay upon the ordinary shares or stock of the company a cumulative dividend not exceeding 5 per centum per annum, and to apply any balance of profit after such payment as aforesaid to any purpose which the company or its directors may deem for the benefit directly or indirectly of the town or its inhabitants.

(*o*) Upon any winding-up or distribution of the assets of the company, except for the purpose of reconstruction, to apply for the benefit of the town or its inhabitants any balance remaining after

1. Repayment of the paid-up capital of the company.
2. Any sum required to make up a cumulative dividend of 5 per centum per annum thereon.
3. Any bonus not exceeding 10 per centum upon the amount paid up on the ordinary shares.

An important clause in the articles of association reads as follows:

129. Subject to the rights of the holders of any debentures or shares entitled to any priority, preference, or special privilege, the net profits of the company, after providing for a reserve

[1] The names of the directors and officials and further particulars of the company's organisation will be found in Appendix A.

fund and for depreciation of the company's properties, shall be divisible by way of dividend among the members in proportion to the amount paid up on the ordinary shares held by them respectively, but so that the dividends upon the ordinary shares for any year shall not exceed the aggregate rate of 5 per centum per annum. The surplus of the net profits of the company, after payment of such dividends and any amount necessary to make up dividends for past years to the rate of 5 per centum per annum, shall be devoted to the provision of traffic facilities, water supply, lighting, drainage, markets, hospitals, libraries, baths, or otherwise for the embellishment of the town, the provision of means of education, recreation, or amusement for the people, or for any other purpose which the company or its directors may deem for the benefit of the town or its inhabitants.

The object of the clauses dealing with the limitation of dividend on the ordinary shares was to establish the principle on which the company was founded, which was to secure the increased value of the land for the benefit of the future community.

§ 2

The authorised share capital of the company is £300,000, divided into 59,400 ordinary shares of £5 each and 3000 ordinary shares of £1 each. The directors went to allotment in September 1903 on 8000 £5 shares (£40,000), and capital has been allotted at various dates since, bringing the total to £194,749. The capital was not subscribed in the ordinary money market, but was raised from people interested in the scheme. The directors stated in the first prospectus (September 1903):

It is difficult to speak with certainty of the financial prospects of an undertaking which presents some features of novelty, but the directors (who themselves and their relations are finding about £40,000 of the capital) believe that if sufficient capital is subscribed the undertaking will soon become dividend-paying, and prove a sound investment at a cumulative rate of five per cent. per annum.

It may truly be said that the directors of Letchworth, fully conscious of the pioneer nature of their enterprise, never promised too much in the way of dividends when raising money. They believed that the undertaking would pay, and they said so; but they were never over-confident of immediate success. In a letter issued the first year they said: "Although the permanent success of the project is, in the opinion of the directors, practically assured, they do not anticipate paying any dividend for the first two or three years, but believe that the full dividend will eventually be paid." In an interim report from the chairman, dated 24th June, 1907, issued with a view to raising further share capital, he said that the payment of dividend was "not to be expected for perhaps the next three years." At the next annual meeting, in January 1908, he

said that "the arrears of dividend are a charge on the future profits, and will, in my opinion, all be paid some day out of the profits of the company."

In October 1906 the directors decided to create a series of 4 per cent. debentures, constituting a floating charge on the assets of the company, and repayable in 1930. The issue of the debentures, which were not offered to the public but to the shareholders and their friends, enabled the company to raise money more easily than by the issue of shares, for the directors were able to pay at once the interest on the money subscribed. The directors did not intend, however, that the debentures should replace the issue of share capital, and from 1906 to 1909, when the last share prospectus was published, over £23,000 was subscribed in shares. When the company appeared to be near the stage when dividends could be paid, the chairman sent a letter to the shareholders urging them to increase their share-holdings.[1] He said: "We ought to declare a small dividend in January 1915 (possibly, but not certainly, even sooner), gradually increasing until the full 5 per cent. is reached, and by-and-by begin to pay off the arrears. . . . Meanwhile the growth of the town entails a capital expenditure of about £20,000 a year for roads, sewers, extensions of gas, water and electricity, and so on. For this purpose we have raised a good deal of loan capital during the past few years; and it is not desirable to go on borrowing capital without increasing our share capital also." He concluded: "Letchworth continues to grow steadily, and every cottage that we can get built is occupied as soon as it is ready; but in developing a large estate, such as ours, for a complete manufacturing and residential town, it is inevitable that a large amount of capital should be locked up in development, which only becomes gradually revenue-bearing. In spite of this, however, we should have been paying a small dividend long ago if all our capital had been in shares, and not to a large extent in loans carrying interest which has to be paid each year, and charged against revenue. Moreover, a good many expenses which really belonged to the future of the estate have had to be paid out of current revenue. The task we have set ourselves is totally different from that of developing a comparatively small area as a suburb for the overflowing population of an existing city; there the whole area can be rapidly developed and made revenue-bearing. These inherent difficulties First Garden City Limited has now overcome: It has paid interest on its loan capital

[1] Letter dated 24th October, 1913.

throughout; it has accumulated a very great reserve fund in the form of the increased capital value of its estate, and now it is earning a net profit on revenue which will, I am confident, enable a dividend to be paid for the financial year just commenced. The directors ask you to help them, to the utmost of your ability, to provide the capital necessary to carry on the development up to that point." In 1913 the first dividend of 1 per cent. was paid, but when the war came the directors decided to postpone the payment of further dividends, and in 1915 they created a new series of £50,000 second debentures, bearing interest at 4½ per cent., and constituting a second floating charge on the assets of the company, to meet the necessary expenditure on development. A year later, in 1916, it was decided to issue 10,000 of the £5 unissued shares of the company as preference shares entitled to a fixed cumulative dividend at the rate of 5 per cent. per annum and ranking in priority to the ordinary shares. These were offered to the shareholders to meet further development expenditure, and after the war, at a time when money was at a high rate of interest (May 1920), an issue of £50,000 of 7 per cent. Gas Works Mortgage Debenture Stock was created as a specific first charge on the company's gas works.

As the directors did not expect to raise the whole of the original purchase price of the property on the first prospectus they had arranged, in connection with the purchase, for a proportion of the purchase money to remain on mortgage, so that in the first year the company had mortgages of £83,934 secured on the freehold of the estate at 4 per cent. interest. The company also borrowed money from the Lands Improvement Company for certain expenditure on water, sewerage and highways; these loans rank as first charges and are repayable over periods of from twenty-five to forty years. Money was also raised from the bank on the mortgage of certain properties; some part of this money was on overdraft account, and therefore fluctuated in amount.

The payment of dividends on the ordinary shares was resumed in 1918, when 2½ per cent. was paid; the same amount was paid in 1919, 1920 and 1921, in 1922 the dividend was 4 per cent., and in 1923 the maximum dividend of 5 per cent. was reached. The confidence of those who believed in the garden city was therefore at last rewarded. The directors were undoubtedly greatly concerned and disappointed at the slow progress of the undertaking, and much of their time was taken up, particularly in the ten years from 1907 to 1917, in searching for an explanation.

§3

This matter will be discussed later on, but first we shall give a summary of the financial position of the company, the capital raised, and the expenditure from year to year. This is contained in the following tables:

TABLE A

THE CAPITAL RAISED BY THE COMPANY FROM YEAR TO YEAR

| YEAR | ORDINARY SHARE CAPITAL | PREFERENCE SHARE CAPITAL | MORTGAGES, LOANS AND DEBENTURES | TOTAL |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| 1904 | 100,692 | — | 83,934 | 184,626 |
| 1905 | 127,927 | — | 91,891 | 219,818 |
| 1906 | 148,320 | — | 111,524 | 259,844 |
| 1907 | 155,861 | — | 131,196 | 287,057 |
| 1908 | 167,056 | — | 144,837 | 311,893 |
| 1909 | 172,046 | — | 161,237 | 333,283 |
| 1910 | 174,212 | — | 175,579 | 349,791 |
| 1911 | 175,446 | — | 195,361 | 370,807 |
| 1912 | 176,331 | — | 206,596 | 382,927 |
| 1913 | 181,036 | — | 249,534 | 430,570 |
| 1914 | 191,836 | — | 268,675 | 460,511 |
| 1915 | 192,688 | — | 289,769 | 482,457 |
| 1916 | 192,939 | 5,370 | 318,037 | 516,346 |
| 1917 | 192,944 | 5,625 | 309,152 | 507,721 |
| 1918 | 192,944 | 5,625 | 291,731 | 490,300 |
| 1919 | 192,944 | 5,725 | 286,255 | 484,924 |
| 1920 | 192,949 | 5,730 | 295,939 | 494,618 |
| 1921 | 192,949 | 5,730 | 322,984 | 521,663 |
| 1922 | 193,149 | 5,740 | 338,074 | 536,963 |
| 1923 | 194,649 | 25,160 | 329,332 | 549,141 |
| 1924 | 194,749 | 45,310 | 320,105 | 560,164 |

TABLE B

EXPENDITURE OF THE COMPANY ON LAND AND DEVELOPMENT

| YEAR | LAND AND BUILDINGS | HIGHWAYS | SEWERAGE | OPEN SPACES, ETC. | GENERAL DEVELOPMENT | COST OF RAISING CAPITAL | TOTAL |
|---|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ | £ |
| 1904 | 154,972 | 3,157 | 136 | 232 | 1,686 | 2,519 | 162,702 |
| 1905 | 158,547 | 12,219 | 4,781 | 951 | 2,722 | 3,740 | 182,960 |
| 1906 | 166,856 | 17,596 | 9,528 | 1,207 | 3,933 | 6,218 | 205,338 |
| 1907 | 171,392 | 24,395 | 13,205 | 1,447 | 5,476 | 7,024 | 222,939 |
| 1908 | 172,913 | 28,327 | 14,475 | 1,467 | 7,745 | 7,688 | 232,615 |

EXPENDITURE OF THE COMPANY ON LAND AND DEVELOPMENT—*continued*

| YEAR | LAND AND BUILDINGS | HIGHWAYS | SEWERAGE | OPEN SPACES, ETC. | GENERAL DEVELOPMENT | COST OF RAISING CAPITAL | TOTAL |
|---|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ | £ |
| 1909 | 174,377 | 32,141 | 15,559 | 1,540 | 9,697 | 8,071 | 241,385 |
| 1910 | 175,369 | 34,371 | 16,349 | 1,632 | 10,807 | 8,395 | 246,923 |
| 1911 | 175,988 | 41,092 | 17,133 | 1,767 | 11,619 | 8,648 | 256,247 |
| 1912 | 179,945 | 44,938 | 18,127 | 1,856 | 16,067 | 9,633 | 270,566 |
| 1913 | 200,091 | 47,985 | 19,688 | 1,582 | 20,954 | 10,741 | 301,041 |
| 1914 | 214,708 | 51,778 | 20,650 | 1,638 | 24,832 | 11,262 | 324,868 |
| 1915 | 218,211 | 53,387 | 21,986 | 1,753 | 27,836 | 11,329 | 334,502 |
| 1916 | 220,754 | 54,588 | 23,124 | 1,761 | 29,153 | 12,021 | 341,401 |
| 1917 | 220,692 | 55,445 | 23,130 | 1,762 | 29,697 | 12,010 | 342,736 |
| 1918 | 222,724 | 55,434 | 23,124 | 1,761 | 29,697 | 12,010 | 344,750 |
| 1919 | 222,655 | 55,704 | 24,244 | 1,761 | 30,504 | 12,010 | 346,878 |
| 1920 | 224,963 | 59,768 | 24,334 | 1,761 | 36,165 | 12,463 | 359,454 |
| 1921 | 228,624 | 61,448 | 24,590 | 1,761 | 39,145 | 12,500 | 368,068 |
| 1922 | 228,367 | 61,863 | 24,978 | 1,761 | 42,708 | 13,184 | 372,861 |
| 1923 | 246,702 | 65,519 | 25,638 | 1,853 | 45,912 | 13,184 | 398,808 |
| 1924 | 248,265 | 77,250 | 27,416 | 1,922 | 48,929 | 13,184 | 416,966 |

## TABLE C

EXPENDITURE ON WATER, GAS AND ELECTRICITY WORKS

| YEAR | WATERWORKS | GASWORKS | ELECTRICITY WORKS | TOTAL |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| 1904 | 3,272 | 110 | — | 3,382 |
| 1905 | 12,894 | 3,797 | — | 16,691 |
| 1906 | 15,641 | 11,293 | — | 26,934 |
| 1907 | 16,479 | 16,332 | 4,554 | 37,365 |
| 1908 | 19,571 | 23,019 | 6,467 | 49,057 |
| 1909 | 20,454 | 24,699 | 6,611 | 51,764 |
| 1910 | 21,123 | 26,813 | 8,530 | 56,466 |
| 1911 | 21,787 | 34,529 | 14,290 | 70,606 |
| 1912 | 26,183 | 38,644 | 21,501 | 86,328 |
| 1913 | 26,904 | 47,338 | 24,253 | 98,495 |
| 1914 | 32,249 | 48,942 | 26,104 | 107,295 |
| 1915 | 33,329 | 51,183 | 38,258 | 122,770 |
| 1916 | 33,559 | 54,131 | 72,775 | 160,465 |
| 1917 | 33,582 | 56,841 | 76,403 | 166,826 |
| 1918 | 34,447 | 58,732 | 77,381 | 170,560 |
| 1919 | 37,681 | 60,191 | 78,827 | 176,699 |
| 1920 | 43,609 | 69,124 | 84,334 | 197,067 |
| 1921 | 45,235 | 76,245 | 103,410 | 224,890 |
| 1922 | 47,015 | 85,799 | 105,372 | 238,186 |
| 1923 | 52,323 | 88,375 | 112,037 | 252,735 |
| 1924 | 55,785 | 93,646 | 119,833 | 269,264 |

## TABLE D

### Receipts from Rents and other Sources

| Year | Farm, Residential and other Rents | Ground Rents | Profit on Waterworks | Profit on Gasworks | Profit on Electricity Works | Sundry Receipts | Total |
|---|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ | £ |
| 1904 | 3,874 | — | — | — | — | 148 | 4,022 |
| 1905 | 3,814 | 246 | 70 | — | — | 984 | 5,114 |
| 1906 | 3,468 | 1,356 | 168 | — | — | 1,267 | 6,259 |
| 1907 | 4,423 | 2,123 | 308 | 290 | — | 1,164 | 8,308 |
| 1908 | 4,619 | 2,990 | 544 | 808 | — | 1,316 | 10,277 |
| 1909 | 4,487 | 3,574 | 588 | 987 | — | 1,100 | 10,736 |
| 1910 | 5,278 | 4,100 | 653 | 1,359 | — | 1,091 | 12,481 |
| 1911 | 5,273 | 4,581 | 837 | 2,149 | 22 | 1,615 | 14,477 |
| 1912 | 5,404 | 5,249 | 1,025 | 2,660 | 624 | 1,462 | 16,424 |
| 1913 | 5,414 | 5,617 | 1,153 | 3,113 | 194 | 1,750 | 17,241 |
| 1914 | 5,556 | 6,023 | | 4,641 [1] | | 1,542 | 17,762 |
| 1915 | 6,638 | 6,312 | | 5,598 [1] | | 4,495 | 23,043 |
| 1916 | 7,282 | 6,772 | | 9,720 [1] | | 2,527 | 26,301 |
| 1917 | 7,560 | 6,997 | | 14,132 [2] | | 395 | 29,084 |
| 1918 | 8,172 | 7,469 | | 11,373 | | 666 | 27,680 |
| 1919 | 8,543 | 7,808 | | 8,277 | | 158 | 24,786 |
| 1920 | 8,708 | 8,400 | | 8,157 | | 1,012 | 26,277 |
| 1921 | 8,756 | 8,955 | | 10,256 | | 863 | 28,830 |
| 1922 | 9,134 | 9,606 | | 14,823 | | 736 | 34,299 |
| 1923 | 9,606 | 10,076 | | 16,220 | | 599 | 36,501 |
| 1924 | 9,665 | 10,498 | | 19,171 | | 542 | 39,876 |

## TABLE E

### Yearly Balances on the Revenue Account

| Year | Balance on Revenue Account Before Charging Interest | Net Balance on Revenue Account |
|---|---|---|
| | £ | £ |
| 1904 | 439 (profit) | 2,979 (loss) |
| 1905 | 1,135 (loss) | 4,732 ,, |
| 1906 | 1,469 ,, | 5,575 ,, |
| 1907 | 1,516 (profit) | 3,333 ,, |
| 1908 | 915 ,, | 4,651 ,, |
| 1909 | 2,395 ,, | 3,692 ,, |
| 1910 | 4,875 ,, | 1,676 ,, |
| 1911 | 7,349 ,, | 174 (profit) |
| 1912 | 10,954 ,, | 3,086 ,, |
| 1913 | 12,063 ,, | 3,194 ,, |
| 1914 | 12,488 ,, | 3,034 ,, |

[1] The profits on the Water, Gas and Electricity Works are merged in these figures.
[2] Since 1917 other profits are included with the profits on the Water, Gas and Electricity Works.

YEARLY BALANCES ON THE REVENUE ACCOUNT—*continued*

| YEAR | BALANCE ON REVENUE ACCOUNT BEFORE CHARGING INTEREST | NET BALANCE ON REVENUE ACCOUNT |
|---|---|---|
| | £ | £ |
| 1915 | 16,571 (profit) | 5,704 (profit) |
| 1916 | 17,853 ,, | 5,720 ,, |
| 1917 | 19,212 ,, | 6,003 ,, |
| 1918 | 18,778 ,, | 5,967 ,, |
| 1919 | 17,416 ,, | 5,154 ,, |
| 1920 | 17,961 ,, | 4,910 ,, |
| 1921 | 18,748 ,, | 3,539 ,, |
| 1922 | 24,341 ,, | 8,547 ,, |
| 1923 | 28,475 ,, | 11,256 ,, |
| 1924 | 29,411 ,, | 12,027 ,, |

## § 4

Although the directors of Letchworth did not anticipate the rapid financial success of their venture, they very soon came to the conclusion that the company's annual accounts did not correctly represent the actual financial progress of the scheme. In their second annual report, dated January 1906, they said: "The accounts do not convey an adequate impression of the rapid and substantial progress which the company has made during its two years' operation." And again, in 1907, they said, "The accounts show an apparent loss of £5575 16*s.* 1*d.* on the year." The total adverse balance at that date, as shown by the accounts made up to 30th September 1906, was £13,288, after three years working. With a view to arriving at a true statement of the position, the directors instructed Messrs. Drivers, Jonas and Co. and Mr. (now Sir) H. Trustram Eve to prepare a valuation of the estate. This valuation showed that the land and the buildings on it belonging to the company were worth in September, 1907, £379,500. The total expenditure, including the price paid for the property and the expenditure on gas, water, electricity, highways, sewerage, general development and preliminary expenses, amounted to £265,831 0*s.* 4*d.*, so that the valuation showed an appreciation of £113,668 19*s.* 8*d.* This, the directors believed, showed the real position, and though they could not employ the increment for the purpose of paying dividends (it not being a realised profit), they introduced the amount of the valuation in the accounts in place of the actual expenditure (having taken counsel's opinion on the matter), and wrote off the adverse balance on the revenue account

£16,621 13*s.* 5*d.*, carrying forward the balance of the increment amounting to £97,047 6*s.* 3*d.* The amount deducted from the valuation to arrive at the increased value included expenditure on the water, gas and electricity undertakings which, not being included in the valuation, need not have been so deducted. The increased value was therefore greater by £37,365 (the amount spent on these works) than the amount shown in the accounts; the commercial value of the undertakings was at least equal to the expenditure upon them, if it did not exceed that amount.

From 1908 to 1910 the company continued to show losses on its revenue account, and in 1911, when it appeared that the period of revenue losses had definitely come to an end, the directors wrote off the further losses to date, together with certain other expenditure, amounting in all to £20,452 19*s.* 9*d.*, against the increase in value of the property, leaving a balance of £76,594 which has since been continuously carried forward in the accounts. A year later the directors were induced to make certain changes in the accounts, and in explaining those changes they made the following statement in the report for the year ended 30th September, 1912, the report being dated 21st January, 1913:

It will be seen that the net profit of the company for the year is given as £3086 12*s.* 2*d.*; for the year previous a net profit of £174 14*s.* was shown. It is, however, only right at once to point out that the two figures do not correspond, inasmuch as there has been this year a very important change in the presentation of the company's accounts. Shareholders will remember that, in the first seven of the nine years of the company's operations, the accounts showed net losses on revenue account; but the directors always maintained that these losses were only apparent, inasmuch as they were far more than counterbalanced by the increased value of the estate. This year the directors, with the concurrence of the auditors, and fortified by the legal opinion of Sir Francis Palmer, the eminent authority on company law, have written to development account certain considerable expenditure, amounting to £2354 2*s.* 10*d.*, which, according to the system of accounts followed in previous years, would have been charged against revenue. These items were not incurred for the purpose of carrying on the estate as a going concern, but with a view to its future development. In the early years of the estate it was probably wise to charge such items to revenue account, but now that the future of the estate is beyond doubt, it would be an excess of caution to continue to do so, and would only give a false view of the result of the company's operations. It would, in fact, be robbing the revenue account each year, in order to build up an ever-increasing surplus of assets over liabilities. That surplus, it will be remembered, is already £76,594, as shown by the valuations of 1907 and 1911.

It is, however, the intention of the board, before paying any dividend, to have a revaluation of the company's property made, and if that revaluation—as they confidently expect—shows a further increment of value produced by their operations, in addition to the increment shown in 1907 and confirmed in 1911, they will write off the development account against part of such new increment, and then proceed to pay a dividend out of the accumulated profits of revenue account. The directors hope to be able to fulfil the expectation held out in their last report by paying a dividend of 2½ per cent. on shares in two years from the present time, possibly even sooner.

In an ordinary trading company it is comparatively easy to keep expenditure on capital account distinct from expenditure on revenue account; in the development of a new town the problem is more complicated. Besides expenditure represented by bricks and mortar, and other tangible things, there is much expenditure necessary for development, which, while yielding an increase in capital value, is not represented by additions such as buildings. This kind of expenditure is properly dealt with by putting it to a development account, and writing it off when it has been proved by a revaluation that it was wisely and profitably made. The company has, of course, always had such a development account; the only difference is that the point has now been reached when the caution shown in the past would be unnecessary and undesirable. The directors have contemplated some such change as the above for several years, and they are satisfied that the net profit now shown does not in any way overstate the actual profit of the company during the year, but, on the contrary, is well within the facts, seeing that they have still charged to revenue account considerable sums which have been expended for the purpose of developing the estate, and which, therefore, they might have charged to development account, according to the legal advice they have received.

The expenditure referred to in the above quotation was advertising, proportion of London and Letchworth office expenses, proportion of law charges, and a small amount for interest on money borrowed for certain specific works whilst under construction. The action taken so cautiously in 1913 shows the difficulty in which the company had been since its inception.

That difficulty arose out of the very nature of the undertaking and is worth some attention. The expenditure fell under three main heads:

(*a*) Construction of works such as roads, sewers, waterworks, etc.
(*b*) Lay-out of plots and creation of ground-rents.
(*c*) Maintenance of properties and collection of revenue.

The first item was clearly capital expenditure, and there was never any difficulty about treating it as such; the third item was also clearly a revenue payment. The expenditure falling under the second head was not so easily dealt with. Some part of it was charged to a general development account, which up to 30th September, 1912, reached a total of £16,067, and was made up as follows:

| | £ |
|---|---|
| Fees to consulting architects, and surveyors, etc. | 2,992 |
| Proportion of surveyor's office salaries and expenses | 4,784 |
| Legal expenses | 4,720 |
| Fencing plots, levelling sites, etc. | 2,964 |
| Promotion expenses of cottage building company | 359 |
| Expenses *re* unification of parishes | 50 |
| Land given for school site | 198 |
| | £16,067 |

But all the rest, including the whole of the salaries of the staff and office expenses (except the proportion charged above and a proportion

of the engineer's salary already charged to engineering works), costs of advertising, legal charges, and so forth, was charged to the revenue account. That expenditure was "not incurred for the purpose of carrying on the estate as a going concern, but with the view to its future development"; it was, however, considered to be an expense that should be met out of rents received and other revenue. Part of this expenditure, though by no means the whole of it, for the company "still charged to revenue account considerable sums which have been expended for the development of the estate," was in 1912 charged to the development account for the first time, and, two years later, enabled a dividend to be paid.

When, therefore, the question is asked, Why did Letchworth take so long to pay the dividend on its share capital? the answer must be, Because the revenue account was made to bear, throughout the history of the company (though to a decreasing extent), expenditure incurred for the development of the estate which should have been charged to capital account. Further, the company was financed from the start on borrowed money. Two-thirds of the original purchase price of the estate was borrowed, and development was largely financed by mortgages, debentures and other borrowings. On the whole of this borrowed money interest was paid, and the whole of the interest (with the exception of a very small amount from 1912 onwards) was charged to the current revenue account. Now, it is apparent from even a slight study of such an enterprise as that of a garden city that, if largely financed by loan capital (which is practically inevitable), it is impossible to pay current interest on borrowed money out of the current revenues in the early years of the concern. When it is considered that the Letchworth estate showed a net return of something just under 2 per cent. at the date of purchase in 1903, and that the greater part of the cost was borrowed at 4 per cent., it is obvious that at the very outset the revenue must fail to meet the interest; and as development proceeded and capital was sunk in works which could only be made profitable over a long period, revenue became for a time even more incapable of meeting interest charges, and greater losses than ever were inevitable. Yet those losses were not real losses, as the directors perceived and pointed out. For the activities of the company, the amalgamation of the various properties and the constructive work that was proceeding, improved the value of the property to the extent of a much larger sum than the total of the expenditure upon it. If the interest had been

stationary, or if revenue could have been increased at a greater rate than the increase of interest, the burden of interest would not have mattered so much because it could have been easily borne. But as it was, interest increasing yearly in amount exhausted the revenue for a long period, and caused the undertaking, judged by the accounts, to present a poor result. To the extent that interest, and the expenditure for development purposes charged to revenue, were written off against the increased value of the estate (as was done in 1907 and 1911) the revenue account was relieved, but the method adopted was imperfect; for this expenditure having passed into the revenue account had absorbed the profits already there, and the amount subsequently written off against the increased value was correspondingly less. The result of this was that the revenue account at the end of 1911 showed no balance, whereas if the expenditure in question had been placed to a separate account the revenue account would have shown a considerable balance of profit at that date.

## §5

The nature of any business is an important, if not the deciding, factor in considering its finance. The business of a garden city company is to create a new town on an agricultural area. The land is not sold, but leased. Therefore, in developing the town the company is creating revenue in the form of secured ground-rents. Capital is sunk in expenditure upon land and development which produces revenue as the finished product is leased. The business is therefore quite different from that of the ordinary land developer, who sells the freehold as fast as his expenditure creates building land. His sales provide the money to enable him to go on developing, and he needs comparatively little capital because he is always getting back his original expenditure and more. Letchworth having been developed as it was developed, more and more capital was needed as the town grew. None of the capital came back as fresh capital. The company's land was not stock, as the land developer's land normally is, possessing the characteristic of all stock that it should be got rid of as rapidly as possible; nor was it subject to the tradesman's principle of small profits and quick returns. It was a fixed asset, held for its income. This fact would have justified the directors in adopting at the first and to the fullest extent the principle

of dealing with expenditure which they acted upon to a partial extent in 1912, and have followed since.[1]

Had the whole of the expenditure directly or indirectly incurred for the purpose of the development of the estate been charged to capital account, and had the interest on unremunerative capital expenditure been charged to capital account or held in suspense, the revenue account would have shown a profit from the very start, and the 5 per cent. dividend on the ordinary shares would have been reached at a comparatively early date.[2] Indeed, it may be said that a more enlightened method of dealing with the accounts would have saved the undertaking from many difficulties and would have prevented the disheartenment of the directors which was reflected in the speech of the late Mr. Aneurin Williams when he announced his resignation of the chairmanship of the company at the annual meeting in 1915. He said at the conclusion of that speech:

> We set out to create not a pleasant place of residence for the well-to-do, nor even a garden suburb, to which the working-people of some old city should return at night, and in which they should live under good conditions, but a model town—a garden city—with industries, shops, cottages, villas, public and private gardens, and an independent municipal life of its own. To a considerable extent we have proved that it can be done; indeed we have done it, with admirable effect on the life of the inhabitants, especially of the working-class inhabitants. But we have not yet proved that it can be done quick enough to afford as great a public lesson as it should, and to pay a modest interest on the capital invested in it. Until it does this last, it will not be considered, and will not deserve to be considered, practical politics by our fellow-countrymen, and its example will not be followed as it ought to be, and must be.

The position of the scheme, however, was much better than it was believed to be, and, though progress was undoubtedly slow, the accounts, as the present writer has endeavoured to point out, showed an unnecessarily unfavourable result.

## §6

The company reached the maximum dividend allowed by its constitution in 1923; that dividend could have been paid at an earlier date out of accumulated profits, but the board considered it better to wait until the profits for the year were sufficient for the purpose.

[1] This matter is discussed in some detail in *Some Notes on a Proposed New Form of Accounts for First Garden City, Ltd.*, by C. B. Purdom. Privately printed, 1915.

[2] It is worth noting that had the whole of the capital on which Letchworth was developed been share capital, and had the proper apportionment of the general expenditure on development been made to capital account, leaving as a charge against revenue only those items which were due to the maintenance of the property and the collection of the revenue, the undertaking would have shown profits that would have justified a small dividend the first year, and within a year or two the full five per cent.

The payment of the accumulated dividend (which amounts to £133,245) upon the ordinary share capital of the company is a problem that the directors have now to face. At present their declared intention is to pay it gradually out of the balance of profits remaining from year to year after paying the current dividend, starting with the dividend that accrued in the first year, 1904, and clearing up each year's arrears in turn. On various occasions the proposal has been made that the accumulated dividend should be converted into stock. The late Mr. Aneurin Williams referred to the matter at one of the annual general meetings of the company as follows:

> I do not think that we need contemplate the necessity of paying all that out in cash. My own belief is that the whole of that, and probably a good deal more, is represented by the surplus assets of this company, and that it ought to be possible to convert these arrears into a stock of some sort, before very long, as against the assets of the company, and pay dividends on that stock out of the growing revenue of the company.[1]

In 1923 the directors took counsel's opinion on the question of distributing the accumulated dividend in the form of shares, such shares being created out of the surplus value shown by a valuation of the property. Counsel advised the directors against such a course. Late in 1924, a leading shareholder and manufacturer in the town (Mr. G. H. Ewart) took the initiative in bringing before the company a proposal to capitalise the dividend in the following way: the property of the company was to be valued, and, assuming that the valuation showed a substantial margin (as it would be certain to do), the total amount of the reserve accounts for depreciation, etc., in the books, which had been accumulated out of revenue, would be brought back into revenue account and distributed to the shareholders in the form of fully-paid shares. This proposal was supported by eminent counsel. As, however, it would be of small advantage to allot these shares unless a dividend could be paid upon them, it was further proposed that the increment in the value of the real estate, shown by the valuation, should be used as a reserve, against which could be written off the further depreciation for which provision would need to be made annually in the accounts of the trading concerns of the company (such as the water, gas and electricity supplies), thus increasing the revenue account by the amount of that depreciation and providing a balance of available profit more than sufficient to pay five per cent. dividend upon the new capital.

The proposal has certain attractive features; but the reserve accounts

[1] Report of Proceedings, 21st December, 1922.

referred to fall somewhat short of the total amount of the accumulated dividend, and the use of a mere book figure, such as a valuation, to replace an actual cash provision for depreciation obviously needs to be made with caution. There is probably, however, no real objection to the employment of ascertained margins of land values (up to a certain point, at any rate) to meet depreciation of plant; for those margins have a cash value.

However, the proposal was not accepted by the company. No doubt the directors will before long find some way by which the arrears of dividend can be disposed of; for it is in the interests of the shareholders that they should do so, and it would be greatly to the advantage of the scheme as a whole. One comparatively easy solution of the problem would be a reconstruction of the company, though it would perhaps be somewhat expensive. An important effect of disposing of the arrears of dividend would be to bring nearer the time when surplus profits would be available for the town. As soon as the company is in a position to contribute annually out of its revenues some definite sum to the town, for whatever purpose the directors may think fit, a convincing demonstration will be provided of the financial advantages of garden city development, and that will help more than anything else to bring the garden city idea into public favour. For that reason alone the directors of the company may be expected to search for some means of dealing satisfactorily with the problem.[1]

## § 7

One consequence of the system of treating as a charge to revenue expenditure that was really part of the cost of development, was that the actual costs of development were not ascertained. The company therefore was not in a position to know exactly what its position was at any given time (though the valuation was a rough guide), nor what return its ground-rents were showing. Calculations made by the present writer on such data as were available, covering the period from 1905 to 1915, may be of interest, though they have no bearing on present-day figures of cost. The real development expenditure each year was

[1] An interesting sidelight on the question of the disposal of the company's profits appeared at the last annual general meeting (18th December, 1924), when several shareholders objected to a motion for an allocation of part of the net profits to a Staff Pensions Fund. It was argued that the directors should themselves make provision for such payments before ascertaining the net profits, and that those profits could only be dealt with in accordance with the terms of clause 129 of the articles of association (see pp. 135–6), which, it was maintained, stand in the way of any such allocation of profits.

arrived at as nearly as possible, and was apportioned over the area developed and the area to be developed (that is, the complete town area) with the following result:

| Year | Area Developed each Year in Acres | Development Cost per Acre [1] | Year | Area Developed each Year in Acres | Development Cost per Acre [1] |
|---|---|---|---|---|---|
| | | £ | | | £ |
| 1905 | 274·3 | 85 | 1911 | 13·0 | 320 |
| 1906 | 49·1 | 140 | 1912 | 27·6 | 355 |
| 1907 | 65·1 | 185 | 1913 | 38·0 | 345 |
| 1908 | 25·4 | 240 | 1914 | 7·7 | 352 |
| 1909 | 28·9 | 260 | 1915 | 32·1 | 340 |
| 1910 | 21·2 | 276 | | | |

The areas and figures, it should be remembered, are approximate. The low cost in the first few years is partly explained by areas being developed on existing highways. Succeeding years had to bear not only the current expenditure on roads and sewers, but a proportion of the cost of past development of a general character, plus interest on borrowed money.[2] The expenditure on development in any given year (apart from roads and sewers) that had a bearing on the whole town area was apportioned over the whole area, not wholly charged on the actual developed area. This means, of course, that a certain amount of expenditure was carried forward each year. It is worth recording that a considerable area of the land developed in the first few years remained undisposed of even as late as 1915. At the end of that year there were no less than 188 acres developed but unlet. Some of this land was subsequently disposed of at a high figure, but while it remained in hand its "cost" was steadily increasing, not only by the amount of the interest upon it but also by a proportion of the general development expenditure. To the foregoing figures must be added the cost of the land. The total original cost of the estate was approximately £47 per acre over the whole area; but as a large part of the land was to be retained as an agricultural belt, upon which a reduced return was to be expected, the written down value of the agricultural land must be added to the cost of the town area, so

[1] These figures exclude the cost of the land.

[2] That the interest paid on borrowed money expended on development should be treated as part of the cost of development until the land is disposed of is necessary to the finance of land development as carried out at Letchworth. Whether those payments of interest are ultimately met out of future revenues or out of capital is immaterial. For practical purposes the interest should be treated as an element in development costs; and unless the capital values created can cover interest during the period taken to create them the financial position is bound to be unsound. In the Letchworth accounts, as we have pointed out on an earlier page, interest was automatically charged to revenue account, and one result was that its effect upon costs was overlooked. In the figures given here interest is included, for the reasons just stated.

that the figure should be taken at about £94 per acre, and that sum should be added to the figures given in the above table to arrive at the total cost of land and development at each period.

The areas of land disposed of in the years covered by the same figures can also be given. "Land disposed of" means land let on building lease, let on short agreements, occupied by the company's works or other buildings, or sold. Leases or agreements for land in the agricultural area are excluded.

| Year | Area of Land disposed of each Year in Acres |
|---|---|
| 1905 | 117·6 |
| 1906 | 62·3 |
| 1907 | 52·5 |
| 1908 | 28·2 |
| 1909 | 22·3 |
| 1910 | 26·3 |
| 1911 | 25·4 |
| 1912 | 26·7 |
| 1913 | 17·2 |
| 1914 | 12·4 |
| 1915 | 15·3 |

The following summary of the number of building leases created in the period from 1904 to 1915 is interesting:

*Residential Sites*

| Years | No. of Leases | Area | Annual Ground Rent | Average Annual Ground Rent per Acre |
|---|---|---|---|---|
| | | Acres | £ | £ |
| 1904–1907 | 424 | 135·158 | 1,933 | 14·3 |
| 1908–1911 | 183 | 50·241 | 1,117 | 22·2 |
| 1912–1915 | 88 | 18·731 | 483 | 25·8 |
| | 695 | 204·130 | £3,533 | £17·3 |

*Industrial Sites*

| | | Acres | £ | £ |
|---|---|---|---|---|
| 1904–1907 | 9 | 22·157 | 232 | 10·5 |
| 1908–1911 | 13 | 17·571 | 330 | 18·8 |
| 1912–1915 | 7 | 14·763 | 360 | 24·4 |
| | 29 | 54·491 | £922 | £16·9 |

*Workmen's Cottage Sites*

| Years | No. of Leases | Area | Annual Ground Rent | Average Annual Ground Rent per Acre |
|---|---|---|---|---|
| | | Acres | £ | £ |
| 1904–1907 | 55 | 38·540 | 593 | 15·4 |
| 1908–1911 | 18 | 22·611 | 476 | 21·1 |
| 1912–1915 | 21 | 25·031 | 548 | 21·9 |
| | 94 | 86·182 | £1,617 | £18·8 |

*Commercial Sites*

| | | Acres | £ | £ |
|---|---|---|---|---|
| 1904–1907 | 46 | 6·419 | 304 | 47·3 |
| 1908–1911 | 21 | 2·174 | 127 | 58·4 |
| 1912–1915 | 13 | 1·451 | 95 | 65·5 |
| | 80 | 10·044 | £526 | £52·3 |

*Public Building Sites*

| | | Acres | £ | £ |
|---|---|---|---|---|
| 1904–1907 | 1 | 3·000 | 18 | 6·0 |
| 1908–1911 | 5 | 1·341 | 55 | 41·0 |
| 1912–1915 | 5 | 1·448 | 59 | 40·7 |
| | 11 | 5·789 | £132 | £22·8 |

It should be borne in mind that the figures in the above tables are pre-war figures, and are not reliable data for post-war purposes.

## § 8

In addition to expenditure on development, the company has also had to spend considerable capital on undertakings such as the supply of water, gas and electricity. These businesses form a valuable part of the enterprise. The expenditure upon them to date (1924) is £269,264, and shows a return of just over 7 per cent., but as there is a reserve of £80,000 for depreciation, etc., the yield is really more than 9 per cent. Apart from these three important undertakings, the company has never seriously embarked upon subsidiary enterprises. At one time or another various schemes were started but were all ultimately given up; among them were included a nursery, an omnibus service, a swimming

bath, an hotel, a building organisation, a herd of dairy cattle and the farming of some of the company's own land. These enterprises were, however, never regarded with enthusiasm, and in announcing that the last of them was to be disposed of the directors said in their annual report (December 1921): "A loss (on farming and dairy farming) has been incurred during the year, which has confirmed the view already held by the board that it is better to dispense with subsidiary undertakings, where possible, so as to enable the staff to concentrate their whole energy on the development of the town and the main business of the company. The directors are therefore taking steps to dispose of the farming stock and to let the land now farmed by the company."

## § 9

The original economic basis of the garden city was the so-called unearned increment, the supposition that the laying out and development of a town upon land purchased at agricultural value would yield a value over and above the total expenditure upon it. As a distinctive feature of the garden city scheme is the intention that this unearned increment should be secured for the benefit of the people living upon the land, the question of land tenure is of importance. In a pamphlet issued by the Garden City Association in 1901, before the Letchworth garden city was founded, it was said: "The whole question of rents and the nature of the tenure to be established in garden city is one of some difficulty; but the association will seek to secure a form of land tenure which will afford the greatest possible encouragement to individual enterprise, while at the same time securing to the community the large increment which must inevitably arise as the area is converted from a rural into an urban one. As a matter of course, the best expert advice will be taken before any definite decision is come to on these points."

When the Letchworth estate was purchased, the tenure on which the land should be disposed of was actively discussed, and various suggestions were put forward to ensure the unearned increment being reserved for the community. Mr. Howard's idea, as expressed in his book, *Garden Cities of To-morrow*, was a system of rate-rents, which he defined as follows: "That part of the rent which represents interest on debentures (on the original purchase price) will be hereafter called 'landlords rent'; that part which represents repayment of purchase-

money, 'sinking-fund'; that part which is devoted to public purposes, 'rates'; while the total sum will be termed 'rate-rent.'" [1] The amount of the rate-rent would be arrived at "by competition among the tenants," [2] an assessment department being formed whose business was thus described: "This department receives all applications from would-be tenants, and fixes the rate-rent to be paid—such rate-rents, however, being fixed not arbitrarily by the department, but upon the essential principle adopted by other assessment committees—the really determining factor being the rate-rent which an average tenant is found willing to pay." [3] In other words, the land was to be disposed of at the market price. The proposal that was considered by the Letchworth company to give effect to Mr. Howard's ideas was that land should be held on 100-year leases, paying (1) a fixed ground-rent representing a fair proportion of the purchase price of the land and the expenses connected therewith, and (2) a rate-rent representing the cost of the public services, revised from time to time by a committee of nine members elected by occupying leaseholders. These suggestions, interesting enough in themselves, protected neither the interests of the Garden City Company nor the interests of lessees; for the return that the company would be likely to receive would remain uncertain, which would have affected its credit, and the amount payable by the lessee would have been equally uncertain, which would have prevented his obtaining capital for building. It was therefore finally decided that the people coming to Letchworth should be offered land on terms similar to those to which they had been accustomed elsewhere,[4] and ordinary building leases for 99 years were granted, as well as leases containing a provision for revision of the ground-rent every 10 years on the then value of the land apart from the improvements of, and buildings erected by, the lessee. Very few of the latter leases were granted, as the undefined amount of the future liability for ground-rent was a fatal obstacle to their adoption, in spite of the fact that the original ground-rent was less under this form of lease than under the other form. Later on, leases were granted for 99 years, renewable for a further period of 99 years at a revised rent; for 999 years at a rent revisable every 99 years; and, for factories only, for 999 years at a fixed rent. Agricultural land is let on the usual yearly agreements or for longer periods as arranged. The freehold is not disposed of except to public authorities

[1] *Garden Cities of To-morrow*, pp. 34–5. [2] *Ibid.* p. 41. [3] *Ibid.* pp. 73–4.
[4] See "Land Tenure in Garden City," by Aneurin Williams, in *The Garden City*, p. 211.

for public purposes, to churches, and to the railway company for the purpose of their undertaking.

The question of the relative merits of disposing of the land on leasehold tenure as compared with the sale outright of the freehold was thoroughly discussed. A memorandum was issued to the shareholders in April 1904, in which the matter was set forth as follows:

> The garden city company, in proposing to found a new town for industrial and residential purposes, is not entering into a land speculation; it does not desire to reap for itself the profit which will accrue from the conversion of agricultural land into building land, and from mere building land into the site of a well-developed town, and it has carefully deprived itself and its successors of the power to do so. The articles of association of the company provide that all profits beyond a cumulative dividend of 5 per cent., which is regarded as a fair return to the shareholders, shall be used for the benefit of the town and its inhabitants. As the profit, therefore, cannot be retained by the company, it will go to the tenants in one way or another.
>
> Under these circumstances it is obvious that for the sake of the tenants themselves, as well as in order to secure the fulfilment of the objects of the company, it is desirable to apply the most equitable conditions of land tenure possible both in respect of public and private interest. This can only be accomplished if the company in the first place maintains the full control of the development of the town, and in the second place adopts the system of tenure which will secure, as far as possible, under the established laws and customs of the country, that the increase in the value of the land shall benefit those who create it. As the greater part of this increased value is due to the social activities of the people as a whole (*i.e.*, in their collective capacity), it is in this capacity that they should receive the benefit, and not as private individuals.
>
> In order to secure these ends it is considered preferable to adopt a leasehold system of tenure. . . .
>
> It is further to be borne in mind that the rents paid by tenants are not absolutely outgoings as rents ordinarily are, but a considerable proportion will be available for purposes which are paid for in existing towns out of the rates. Moreover, the actual cost of public services will, it is obvious, be less in a city planned from the beginning, and the land of which has been bought at agricultural value, than in ordinary towns where public services are carried out only after land, still in private ownership, is at a high price and numerous vested interests have grown up. Putting these two facts together, it does not appear too sanguine to expect that as soon as there is a thriving town on the garden city estate, no rates will be needed, the rents proving ample to cover all public services, and as the profit which prospective tenants may hope to derive will depend upon the success of the company in securing the rapid establishment of the town, it is hoped that intending settlers will recognise that their interests are in common with those of the company.

The primary reason for adopting the leasehold system was the practical one of enabling the Garden City Company to retain control over the property. Such control was an essential part of the scheme, for without it the maintenance of the garden city, its character and amenities, would probably prove difficult if not impossible in time to come. Under a lease the company could exercise control which would be impossible under the covenants in a conveyance of the freehold. For positive as well as negative covenants could be enforced under a lease, which could not successfully be done otherwise. Covenants under

a lease can be enforced by the simple remedy of re-entry; but covenants in a conveyance can only be enforced by action in the courts or by an injunction, and positive covenants, such as to repair, to cultivate gardens and so forth, could not be made to run with the land and become binding on all owners into whose hands the land might fall. The leasehold system, it could therefore be claimed, was better than freehold to the extent that control exercised by the company gave security to leaseholders generally. One effect of the leasehold system upon the scheme was that the company needed a larger amount of capital in one form or another than it would have required had freeholds been sold for cash. Neither could the company sell its ground-rents, for it would by so doing have lost its control over the property.

In addition to the element of control, the company was no doubt influenced in adopting the leasehold system by the great desire to retain the unearned increment for the community. That desire would have been fully realised had the system of leases at revisable rents been found workable; but the granting of 99-year leases, and still more 999-year leases, gave to the lessees such part of the unearned increment as exceeded the amount of the ground-rent. The unearned increment, to the extent that it was to be secured by the company, had to form, therefore, part of the ground-rents created.

## § 10

When the ground-rents were originally fixed they were intended to have some relation to cost. The idea of getting the maximum market price, though not, it seems to the writer, inconsistent with the ideas in Mr. Howard's book, did not altogether commend itself to the promoters of Letchworth. It is true that no one could say beforehand what the market price of the land was likely to be; for the company had to create its market. But it seems as though the promoters were influenced by the desire not to overcharge the public. Attempts were made at various times to ascertain what should be the proper price for the land. Calculations were made of the estimated direct and indirect costs of producing the land; but while all these estimates pointed to a higher price being charged than was obtaining at the time, they were not used to lay down any definite basis. Nor, indeed, could any satisfactory basis be arrived at by such means. The value of land is what a purchaser will pay for it in the market, and what the Garden

City Company should have done at a much earlier date than it did was to cultivate its market, develop its market values, obtain in that way the maximum price, and so secure the current "unearned increment." There was something to be said, of course, for disposing of land at a low price in the first few years with a view to attracting a population; and the low initial ground-rents may be explained in that way; but it meant the surrender by the company (though a reasonable surrender) of the unearned increment on those plots. As the town grew, the company gained the ability to set a higher standard of ground-rent, and it is undoubtedly in the interest of the undertaking as a whole, and in conformity with its fundamental social aims, that the highest market price for the land should be secured.

## § II

The probable effect of land taxation upon a garden city scheme such as that of Letchworth calls for a short note. In the first place, the term "unearned increment" as applied to such a scheme is misleading. The increment that arises in a garden city estate is as fully earned as any profit or benefit of any kind could possibly be. The increased value of the land does not arise from the mere passing of time or from the natural increase of population upon it; it does not arise from the accident of its position, or from anything done by the community as such. It is due wholly to the preparation of the plan, to the skill, foresight and ability of those who carry out the scheme, and to the getting together of the community, all of which is distinctly due to the efforts of the promoters. That the profits of such an enterprise, so far as they can be enjoyed by the land-developing company as such, are not extravagant Letchworth has proved. Yet the legislation contained in the Finance Act of 1909, under which increment duty was payable on the assessed increment shown on the granting of leases, and an undeveloped-land tax assessed on land fit for development, would have crippled Letchworth and made the scheme unworkable. When the Bill was before Parliament the directors (two of whom were actually Liberal members of the House) sent a circular to the shareholders as follows:

> I am instructed to call your serious attention to the effect which the Land Clauses of the Budget, as at present drawn, will have upon First Garden City Ltd.
>
> This company is, of course, non-political, and different members of its board are of different opinions as to the taxation of site values and the unearned increment of land. They, however,

unanimously agree that the Budget as at present drawn will tax First Garden City Ltd. (and indeed many other land developers) very heavily, not on unearned increment, but upon the results of its own work and expenditure. This is, of course, a distinct violation of the declarations which have been repeatedly made on behalf of the Government.

The net result will be that the Budget will tax the company, as nearly as it can be calculated, to the extent of about £8000 during the next five years; this will, it is feared, make it extremely unlikely that the company can show any profit whatever during those years.

It is clear that the whole increase in the value of the land at Letchworth is the result (direct or indirect) of the efforts and expenditure of this company.

The case is totally different from that of a landowner who merely holds land while "socially created" value is being added to it by other people. The Budget, however, proposes to tax the company upon a large part of the increased value of its land, on the ground that it is indirectly and not "directly" attributable to its expenditure, or that its expenditure to which it is attributable was of a revenue nature, and not of a "capital nature."

Unless garden city development can be shown to pay its way it becomes a mere toy; and it is difficult to see how Letchworth or any other garden city can ever pay its way if heavy taxes are to be levied upon what are practically gross earnings.

The board has tried its utmost to get the Government to realise the effect of their proposals upon the best type of land development, but without success. I am therefore instructed to call your attention to amendments proposed on the Report Stage by Mr. Idris, M.P., and Mr. Thomasson, M.P. One of these proposes to amend Clause 35 by exempting from the Land Taxes land owned

> "by any body corporate recognised by the Treasury as working for public utility and not dividing any profit to its members other than a limited rate of interest approved by the Treasury in each case."

This would, the directors do not doubt, give complete protection to the garden city undertaking. Failing it, the company would at least get partial justice by the adoption of other amendments proposed by the same two members, viz.:

(1) To insert in Clause 16 (2b) after the word "sewers" (p. 13, line 38) the words "or on draining, levelling, planting, or laying mains"; and (2) to omit the words "directly" and "of a capital nature" in Clause 25 (4a).

I am instructed TO ASK YOU VERY URGENTLY TO WRITE TO YOUR REPRESENTATIVE IN PARLIAMENT AND ASK HIM TO SUPPORT THE ABOVE AMENDMENTS. For this purpose I enclose a spare copy of this letter.

Finally I am to say that the board are not in any way objecting to pay tax on unearned increment. If anything of the sort ever came to the company, they would very gladly hand over 20 per cent. of it to the public. Similarly, they are not even objecting to being taxed upon the company's net profits, when the time comes that it is making a net profit.

This circular is worth putting on record. Mr. Lloyd George, in bringing in his Bill, said that the Government had guarded against anything destructive to garden cities, "one of the best features in housing development in this country." But there was nothing in the Act which protected garden cities; though, as a fact, no assessments were ever made under it on any land at Letchworth while the Act was in force. It is no part of our purpose in this book to open up the general question of the taxation of land values; but this much at least may be said, that in a garden city scheme, conducted by a company which acts as trustee for the future community, a system is brought into existence

for enabling the benefits of increased land values to be socially enjoyed. That is done without disturbing vested interests, without injury or injustice to anyone, by the mere organisation of town life upon new sites, where the haphazard and wasteful methods that have made our old towns find no place. It is a more scientific method of appropriating land values for the benefit of the community, and less disturbing to national and individual economy, than any method of taxation that has yet been devised.

## § 12

The following table shows the growth of Letchworth in relation to the surrounding district, and indicates what an important factor it has become in the local government finance of the area.

THE ASSESSABLE VALUE OF LETCHWORTH COMPARED WITH THE TOTAL ASSESSABLE VALUE OF THE WHOLE UNION

| | | £ | | £ |
|---|---|---|---|---|
| 1903 | Letchworth | 1,051 | | |
| | Norton | 1,069 | Hitchin Union | 158,095 |
| | Willian | 2,076 | | |
| 1904 | Letchworth | 1,282 | | |
| | Norton | 1,626 | „ | 178,324 |
| | Willian | 2,578 | | |
| 1905 | Letchworth | 1,282 | | |
| | Norton | 1,626 | „ | 178,324 |
| | Willian | 2,578 | | |
| 1906 | Letchworth | 3,181 | | |
| | Norton | 2,075 | „ | 185,807 |
| | Willian | 2,998 | | |
| 1907 | Letchworth | 4,917 | | |
| | Norton | 3,371 | „ | 185,737 |
| | Willian | 3,686 | | |
| 1908 | Letchworth | 7,792 | | |
| | Norton | 5,034 [1] | „ | 194,854 |
| | Willian | 6,459 [1] | | |
| 1909 | Letchworth | 19,280 | „ | 198,219 |
| 1910 | „ | 24,821 | „ | 207,463 |
| 1911 | „ | 28,957 | „ | 213,797 |
| 1912 | „ | 33,245 | „ | 223,176 |
| 1913 | „ | 37,546 | „ | 229,988 |
| 1914 | „ | 42,668 | „ | 247,930 |
| 1915 | „ | 45,891 | „ | 254,170 |
| 1916 | „ | 41,423 | „ | 221,559 |
| 1917 | „ | 55,328 | „ | 265,006 |
| 1918 | „ | 59,944 | „ | 271,378 |

[1] The parish of Norton and part of the parish of Willian were transferred to that of Letchworth in 1908.

THE ASSESSABLE VALUE OF LETCHWORTH, ETC.—*continued*

| | | £ | | £ |
|---|---|---|---|---|
| 1919 | Letchworth | 67,158 | Hitchin Union | 280,804 |
| 1920 | ,, | 67,255 | ,, | 282,106 |
| 1921 | ,, | 66,033 | ,, | 245,247 |
| 1922 | ,, | 64,953 | ,, | 272,277 |
| 1923 | ,, | 65,282 | ,, | 284,294 |
| 1924 | ,, | 65,620 | ,, | 285,164 |
| 1925 | ,, | 70,578 | ,, | 256,724 |

The above figures are those adopted for the purpose of the county rate. They are based upon the Schedule A assessments for income tax. They differ from the assessments made for poor-law purposes and for the district rate. The latter figures for the last few years are given below:

| YEAR | GROSS RATEABLE VALUE | NET RATEABLE VALUE | ASSESSABLE VALUE FOR DISTRICT RATE |
|---|---|---|---|
| | £ | £ | £ |
| 1922 | 99,229 | 68,663 | 65,590 |
| 1923 | 106,636 | 74,277 | 71,334 |
| 1924 | 106,226 | 74,181 | 71,393 |

The following statement shows the estimated expenses of the urban district council for the year, 1924/1925. In the first half-year a penny rate was estimated to produce £280, and a general district rate of 2*s.* 8*d.* in the pound was levied; in the second half-year a penny rate was estimated to produce £300, and a rate of 2*s.* 8*d.* in the pound was levied—a total of 5*s.* 4*d.* for the year. The total rates, including the county and poor rates, were 12*s.* 6*d.* for the year.

| | FIRST HALF-YEAR | SECOND HALF-YEAR |
|---|---|---|
| | £ | £ |
| Highways | 1,300 | 500 |
| Sewage Disposal | 1,000 | 1,000 |
| Sewers | 25 | 25 |
| Public Convenience | 24 | 32 |
| Public Swimming Bath | 15 | 7 |
| Open Spaces and Recreation Ground | 300 | 243 |
| Street Lighting | 200 | 880 |
| Drinking Fountain and Troughs | 10 | 5 |
| Fire Brigade | 180 | 200 |
| Collection and Disposal of House Refuse | 827 | 847 |
| Inspections under Food and Drugs Act | 16 | 15 |
| Infectious Diseases Prevention and Notification | 30 | 30 |
| Salaries | 1,444 | 1,329 |
| Carried forward | 5,371 | 5,113 |

| | First Half-Year | Second Half-Year | |
|---|---|---|---|
| | £ | £ | |
| Brought forward | 5,371 | 5,113 | |
| Establishment Charges | 409 | 449 | |
| Interest on Loans | 927 | 1,536 | |
| Loan Repayments | 598 | 883 | |
| Legal Expenses—Costs of Raising Loans, etc. | 100 | 150 | |
| Housing Assisted Scheme, Council's Contribution | 125 | 125 | |
| Council's Depot | 68 | 53 | |
| Compensation to Rural District Council | 147 | 147 | |
| Contribution to Joint Hospital Board | 746 | 724 | |
| Contribution to County Council | 246 | 246 | |
| Election Expenses | 100 | — | |
| Contingencies | 200 | 200 | |
| | 9,037 | 9,626 | |
| *Less* Half-salaries of Medical Officer of Health and Sanitary Inspector | 87 | 87 | |
| | £8,950 | £9,539 | |
| Total for the Year | | | £18,489 |

# CHAPTER VIII

## CONCLUSION

But the way out of this *impasse* has already been shown. At Letchworth in Hertfordshire there has been carried out within the last twelve years perhaps the most successful and instructive social experiment of recent times. . . . The interests of national health demand that further efforts should be pushed on with all vigour.—W. A. BREND, *Health and the State* (1917).

### § 1

LETCHWORTH was not founded merely to provide good houses for a few thousand people and sites for a few factories, but to demonstrate what could be done by foresight and a proper regard for public interests to work out a system of orderly development for communities. The town should be studied as a national object-lesson in which for the first time principles of town-construction capable of general application were observed. The experiment is unfinished, for the town is still in the making, and its future may easily be more significant than the past; but the town has its complete parts and the leading features of the scheme have been tested, so that the time has fully come for a thorough examination of it. In the preceding chapters of this part of this book an account has been given of the various stages in the growth of the place, and the position of the town and the Garden City Company, which has made the town, have been explained. The writer has invited the reader to look at Letchworth as it is, comparing it with the scheme that was originally put forward, and he does not think it unfair to claim that the town stands the comparison, that it provides a most valuable example of town-building, and that it proves without question the rightness of the fundamental ideas upon which it was founded.

Let us again call to mind what those ideas were. They were set out in a pamphlet issued in 1901, two years before the town was started, not in the form of deliberately reasoned principles but as objects to be aimed at: "The chief objects to be attained in garden cities are (1) to associate the means of living (employment) with the home of the worker by removing established industries to, or founding others on,

new sites, and under conditions which shall secure the best attainable conditions of life in town and country; (2) to provide sites for the houses of the workers in proximity to such industries; and (3) to reserve (*a*) to the inhabitants of cities thus formed the increment of value which their presence will give to the sites, and among other benefits (*b*) the highest attainable physical and intellectual advantages of town life, together with the freedom and healthfulness of residence in the country—these being secured in the interests of the industrial, professional, and commercial classes alike." Is it not true to say that Letchworth is a genuine embodiment of those objects, that it has established their practicability, and that in doing so it provides material by the aid of which principles for future town-building may safely be formulated? It has shown, without question, that the planning and development of a town fit to live in, and providing adequate conditions for industrial undertakings is a feasible project that has a sound financial basis. We should not be misled by the relatively slow growth of the town into thinking that there was some essential defect in the scheme. The position of the estate was not a specially favourable one; it possessed few attractive natural features, it was not very close to London, it was on a branch line of railway, and it must be remembered that the company was always hampered for want of capital, and, above all, that the scheme was unique, with no precedents to be followed, and with nothing to guide the directors in the course of their business. The ordinary methods of estate development, under which large areas of land are disposed of as quickly as possible at the best prices obtainable, could not be adopted. The town as a whole had to be conceived, and land developed for different purposes in different areas under such restrictions as the company felt bound to impose.

At the same time it must be admitted that the directors must accept some responsibility for the slow development of the town and the disappointments that they consequently suffered. The board was never sufficiently united upon a consistent policy of development to enable a programme to be carried out with the energy that was needed. The organisation of the company was never complete. Indeed, it gradually became something in the nature of a policy for the company to do as little as possible, and when a certain stage was reached it seemed to be the intention to sit down, collect the revenue and allow the town to grow by its own impetus. The directors were men of outstanding ability in their own spheres; but no single one of them knew enough

about the business or was able to devote sufficient time to it to administer it in the way that was required. The scheme, therefore, must be regarded as having developed to some extent by its own momentum, and by virtue of its own inherent good qualities. Yet in spite of all that may be urged in the way of criticism, we are bound to come back to the undoubted fact that the undertaking was a daring one, embarked upon under unfavourable financial conditions and in the midst of general doubt as to its practicability. It was a private enterprise with no official support of any kind, without any backing except the personal backing of the directors themselves, and it was undertaken with no prospect of (or even desire for) personal reward. That the directors showed extreme skill and capacity in their initiation of the scheme, and rare courage in the manner in which they persisted in the endeavour to carry it through in the face of constant discouragements, cannot be denied, and to fail in admiration of their achievement would be ungenerous. Recently there have been signs of a new spirit and a more vigorous and enterprising attitude on the part of the board of directors; if that spirit is maintained the growth of the town is likely to go forward at an increased speed and with greater regard for its architectural and town-planning features, as well as with better financial results than have hitherto seemed likely.

§ 2

Since Letchworth was started in 1903 we have had legislation upon town-planning and discussion in abundance upon almost every aspect of the subject. In the steps towards that legislation, and in all the subsequent discussions, the achievement of Letchworth has played an important part. We have had a vast amount of housing undertaken throughout the country, upon all of which the influence of Letchworth has been felt. Yet the characteristic feature of Letchworth, the fundamental principle of the scheme, of which town-planning and improved housing are but the incidental details, is still but little understood. The praise of Letchworth has become a *cliché*, which writers of every party, school, and opinion have used for years on every possible occasion. But until 1920 Letchworth stood alone, without a rival or serious imitator, and with none but a few people really concerned with its real character. The cause of that was perhaps to some degree that Letchworth was supposed to be financially unsuccessful. And the fact that the directors of the company were content to allow the full meaning

of the enterprise to be overlooked was due in some part, no doubt, to the consciousness that they had not accomplished all that they might have done. But the first town on the garden city plan could not at once realise all its possibilities. It may justly be said to be a wonderful testimony to the promoters of the first garden city that they succeeded in carrying through their scheme intact. Was there ever a first attempt that was so successful? How many models of a great invention have to be made and scrapped before a satisfactory result is reached? In town-building such prodigality cannot be practised; but it would not have been strange, or contrary to human experience, if a number of attempts at building garden cities had to be made before anything worth having was reached. Yet Letchworth, this first attempt at a decently-planned modern town on a new site, is, with all its faults, a credit to those who have built it. And although the new garden cities that arise may attain a higher standard, nevertheless Letchworth will always rank as an outstanding achievement, and it will undoubtedly occupy a more and more conspicuous place.

# PART III

## WELWYN GARDEN CITY— THE FIRST SATELLITE TOWN

# WELWYN GARDEN CITY—THE FIRST SATELLITE TOWN

## CHAPTER I

### ITS ESTABLISHMENT AND GROWTH

Men are free when they are in a living homeland, not when they are straying and breaking away. . . . Men are free when they belong to a living, organic, believing community, active in fulfilling some unfulfilled, perhaps unrealised, purpose.—D. H. LAWRENCE.

§ 1

AFTER the war, when there was much talk of necessary reconstruction, and visions of a better world were in men's minds, the housing question was one of the first to be dealt with. There was a great, even overwhelming, shortage of houses throughout the land, and at the same time a strong desire to improve the conditions in which a great mass of the people were living.[1] The pressure upon the Government and the municipalities became intense, and the Housing Act passed in 1919 was the outcome of an intention to do something big at almost any sacrifice. The country was ready for any scheme that would enable the problem to be tackled in a large, generous and thorough manner. A sign of the times was the action of the Prime Minister (Mr. Lloyd George) in sending a small private deputation to Belgium and Germany to report to him upon the garden cities reputed to have been established there, with a view to schemes being carried out on similar lines by the Government in this country. Unfortunately, the deputation returned to report that there were no garden cities in Belgium or Germany to be imitated; and although the Housing Act of 1919 was popularly supposed to be a great garden city measure, it produced no garden cities, and was indeed almost the worst legislation that could have been devised from a garden city point of view. The great desire of those responsible for that legislation was to get the largest number of

[1] While the housing of the working-classes has always been a question of the greatest social importance, never has it been so important as now.—H.M. KING GEORGE V. (11th April, 1919).

houses built in the shortest possible time in places where the demand was most pressing. Every other consideration, with one exception, was subordinated to that. The exception was that the houses were to be well planned, and the sites well laid out. But, as we now know, through the over-organisation of demand without sufficient provision for means of supply, the 1919 Act broke down completely, and though many houses were built, not even the beginnings of a national housing scheme or policy resulted from the efforts that were made. It does not come within the scope of this book to deal at any length with the housing problem as such; but we are keeping to our subject when we say that the outstanding fault of the Coalition Government's housing policy was that no attempt was made to establish a system of distribution of houses. The country was divided into regions with a local commissioner in charge of each, but no use was made of this regional organisation for the purpose of associating the building of houses with industrial development on a scientific plan. Houses were built where the immediate demand was most insistent, and no considerations of town-planning or town-economy were allowed to interfere. Although the housing schemes were often proudly described as "garden cities," the lessons of Letchworth were ignored, except so far as house-planning and site-planning were concerned; and the achievements of the garden city in bringing town and country together, and in providing by a comprehensive development scheme an economic basis in improved land values for housing finance, were treated as though they were unknown.

## § 2

The significance of garden city principles in relation to a national housing policy was pointed out in various publications,[1] and in February 1919 the Garden Cities and Town-Planning Association presented the following memorandum to Dr. Addison, the President of the Local Government Board (as it then was):

> We desire to represent to the President of the Local Government Board that the dimensions of the present housing problem provide an opportunity for the adoption of the garden city principle as a national policy. That principle has been maintained by the Garden Cities and Town Planning Association for a period of twenty years, and has been put into practice at the town of

[1] *The Garden City After the War*, with particular reference to a National Housing Policy, by C. B. Purdom (1917); *New Towns After the War*, by New Townsmen (1918). (The "New Townsmen" were F. J. Osborn, W. G. Taylor and the writer. The book was written by Mr. F. J. Osborn and is the best short statement of the garden city point of view that has been done.) *A National Housing Policy*. Issued by the National Garden Cities Committee, 1918.

Letchworth, with results that, we believe, indicate very clearly its social and economic value. The significance of the present situation is that it arises when the increasingly definite demands of the working classes for improved conditions of life are accompanied by a powerful movement on the part of industry for better manufacturing facilities, and by a pressing need for agricultural reconstruction. It is because the garden city principle is believed to be a means by which the whole range of these demands may be approached with some hope of meeting them, that we wish seriously to urge its recognition upon the Government.

The fact that the provision of workmen's houses has now definitely been accepted as a national responsibility, brings within reach the formation of a settled housing policy for the country as a whole. That policy cannot, however, be formed so long as housing is upon a purely emergency basis; it requires to be considered in relation to the problems of town planning, transit, and the location of industry, with which housing is inseparably connected. We believe that in view of the nature of the problem, it is of the first importance that no time be lost in preparing the foundations of a sound policy for the future.

We venture specially to suggest that as the financial conditions under which building will be conducted remove the provision of houses from the influence of the law of supply and demand, the adoption of a principle of distribution that will be consonant with the national interest is a matter of extreme urgency. To leave the building of houses to the demands of local authorities or employers of labour, without control based upon national policy, will be to plunge into economic and social confusion, from which escape may be difficult. For example, the effect of the Government subsidy will be to relieve the great towns of certain economic checks to expansion, with the result that their traffic, health and municipal difficulties may be intensified. In the absence of a survey of the country as a whole, in which account is taken of the possibilities of scientific planning, it is impossible to deal effectively with this question. But it must surely be clear that it must be faced, otherwise houses may be built in uneconomic situations and become an increasing burden upon the community.

The provision at great expense of tramway and other travelling facilities in the great towns is no solution of their housing problems. The expenditure of time, energy and money upon travelling, as well as the discomfort that is endured, are factors that are becoming appreciated, and the objection to them on the part of labour is likely to increase. Already the demand has been made that journey-time shall be paid for, and it is obvious that any standard working-day may need to be preserved. The cost of travelling in the great towns may thus be thrust upon industry with results that do not need to be commented upon.

Further, by building in and around the great towns, land of a high price has to be used, with the result that the value of development is lost to the community. Sound housing finance requires that the increased land value produced by development should be enjoyed by the State jointly with the local authority; the increased land value would then be a set-off against the loss incurred in building. This advantage can only be secured by building on land of agricultural value; and that, we suggest, can only be done by a combination of housing and industrial development organised on a large scale.

We venture, therefore, to ask the President to consider the following proposals:

That in conjunction with the Minister of Reconstruction a committee be appointed to report upon the possibility of the development of new industrial centres on the garden city principle.

That in connection with the proposed new Housing and Town Planning Bills, provision be made to establish a National Town Planning Commission for the country as a whole, with powers to initiate schemes and to act through Regional Commissioners in co-operation with local authorities in setting the provisions of the Acts in motion. The Commission to be composed of experts appointed by the Government, representatives of local authorities, and representatives of employers and trade unions.

The reply made by Dr. Addison to this memorandum was that

there was no time to attend to such matters until the housing problem had been dealt with.[1]

When the Housing Bill was introduced into Parliament, efforts were made to insert clauses that would enable garden city development to take place; but the Minister was not sympathetic with anything that might tend to delay the one matter of getting as many houses built as quickly as possible, which was the object to which he had committed himself.

## § 3

Mr. Ebenezer Howard was convinced that an attempt should be made to start a second garden city without waiting for official support, and discovering that an area of land in Hertfordshire, which had already been considered a good site for a new scheme, was to be put up for auction in the early summer of 1919, he determined that the opportunity should not be lost. He therefore raised sufficient money from various friends to enable him to instruct agents to attend the sale and bid for the property. This was done, and 1458 acres were bought at the price of £51,000, and the deposit paid. But the area was insufficient for a garden city, and other land had to be obtained. Therefore the purchase of a further 230 acres (Sherrards Wood) was contracted for with Lord Desborough, and a company called Second Garden City Limited was incorporated on 15th October, 1919, with a view to securing a still further area, which belonged to the Marquis of Salisbury, forming part of the Hatfield estate. After some negotiation this company entered into a contract with Lord Salisbury for the purchase of 689 acres at a price of £40,000. The story of the purchase of the land that made up the Welwyn Garden City estate is a romance that must one day be told.

The intentions of those who were concerned with the new scheme were stated in a "Preliminary Announcement of a garden city in Hertfordshire for London industries," issued in September 1919, before the company was formed. This announcement well described the scheme

[1] The *Times* (24th February, 1919), commenting upon the memorandum, said in the course of a leading article: "One can understand why Dr. Addison wants to get on with the building and resists all projects which he thinks will delay the putting of the work in hand. And yet the work should be done well. . . . If . . . control . . . were made to extend over the situation and the placing of the new houses as well as over other matters, some of the advantages for which last week's deputation pleaded might be secured. One feels that what we really ought to have is compulsory co-operation of various local bodies within a great district for carrying out schemes of this kind."

at its inception and the ideas that animated those who were responsible for it, and the following extracts are worth recording:

### A SATELLITE TOWN FOR LONDON

The object of the company will be to build an entirely new and self-dependent industrial town, on a site twenty-one miles from London, as an illustration of the right way to provide for the expansion of the industries and population of a great city. Though not the first enterprise of the kind (the main idea having already been exemplified at Letchworth), the present project strikes a new note by addressing itself to the problems of a particular city. To this end the site has been carefully chosen so as to minimise the obstacles in the way of giving a new turn to the development of Greater London.

The time is peculiarly opportune. On the one hand, the great demand for housing and factory accommodation is likely to lead to the rapid development of the company's estate. On the other hand, it is urgently necessary that a convincing demonstration of the garden city principle of town development shall be given in time to influence the national housing programme, which is in danger of settling definitely into the wrong lines. Unless something is done to popularise a more scientific method of handling the question, a very large proportion of the houses to be built under the national scheme will be added to the big towns—whose growth is already acknowledged to be excessive.

Garden suburbs are no solution. They are better than tenements, but in the case of London, they have to be so far from the centre that the daily journeys are a grievous burden on the workers. Thousands of people have flocked back to the riverside districts in order to be within walking distance of their work. Again, suburban development is costly. Land bought for housing in the London suburbs has cost £700 to £2,000 per acre. The necessary new lines of communication will cost millions. And this method of expansion ignores the needs of industry. Manufactures carried on, as they are increasingly carried on, in makeshift premises in central London, cannot hope to be efficient or to meet either the legitimate demands of labour or the renewal of international competition.

The company's scheme, therefore, will pay equal attention to housing and to the provision of manufacturing facilities. Healthy and well-equipped factories and workshops will be grouped in scientific relation to transport facilities, and will be easily accessible from the new houses of the workers.

The town will be laid out on garden city principles, the town area being defined, and the rest of the estate permanently reserved as an agricultural and rural belt. Particular care will be taken, in the arrangement of the town, to reduce internal transport and transit, whether of factory and office workers, or of goods, to the practicable minimum. A population of 40,000 to 50,000 will be provided for, efforts being made to anticipate all its social, recreative and civic needs. The aim is to create a self-contained town, with a vigorous life of its own independent of London.

In accordance with those principles, the freehold of the estate will be retained in the ownership of the company (except in so far as parts thereof may be required for public purposes) in trust for the future community. The preservation of the beauty of the district and the securing of architectural harmony in the new buildings, will be among the first considerations of the company. The maximum building density will be twelve houses to the acre.

Factory sites, with good roads and sidings, will be provided at moderate ground-rents. No difficulty is anticipated in letting such sites, for which there is a steady demand in the London district.

Progressive firms show a growing desire to get away from the congested central districts of London and other towns; and the advantages offered by the new town will be vastly superior to any alternatives open to manufacturers.

The greater part of the estate is now farmed, arable crops predominating. The coming of a

new large population will create a big demand for produce and much increase the value of the farms and the number of workers on the agricultural belt. Small holdings will be provided for ex-Service men, groups of co-operators and others. It is believed that the situation will be favourable for fruit farming and certain classes of market gardening. Allotments will also be available for those who want more land in addition to their gardens.

The company will make special arrangements to secure an adequate and pure milk supply for the town.

From the national standpoint an important feature of the whole scheme is its influence upon the agricultural community. Not only does it provide openings for many additional workers on the land, but (unlike other methods of rural reform) it brings the advantages of a vigorous urban social life within the reach of the agricultural population.

The promoters desire to emphasise the public character of the enterprise. The constitution of the company fixes a limit of 7 per cent. to the dividend, and provides for the representation of the local authority on the board of directors. All profits above the maximum dividend will be applied for the benefit of the town. And it is intended that in due time the whole estate shall be taken over by the representatives of the new community, subject to a fair provision for the rights of those who have subscribed capital to the company.

## §4

A survey of the property was put in hand even before the purchases were completed, and by the following spring the promoters were in a position to bring the scheme before the public. On 29th April, 1920, Welwyn Garden City Limited [1] was formed with a capital of £250,000. The prospectus issued on 4th May, 1920, explained the objects of the company as follows:

The town has been planned as a garden city with a permanent agricultural and rural belt, and with provisions for the needs of a population of 40,000 to 50,000. It will thus be seen that the scheme is entirely distinct from a garden suburb, which by providing for the housing of the people working in an adjoining district does nothing to relieve congestion and transport difficulties.

The maximum density of houses is planned for twelve to the acre, and the average not more than five to the acre. The method of planning proposed to be adopted by the company will not only tend to reduce the cost of development, but will also preserve the amenities and health of the town.

In order to encourage the demand for sites and to stimulate the rapid development of the town, the company is organised on the basis of the original shareholders receiving dividends of not more than 7 per cent. per annum (cumulative). All further profits of the company (subject to the payment of dividends on shares forming part of any increase of capital) are to be expended for the benefit of the town or its inhabitants. This expenditure will improve its amenities and tend to lower rates and thus, it is believed, attract both residents and business firms; and the better conditions so brought about, under which a large working population will be living, cannot fail to promote their contentment and happiness.

The revenue of the company will fall under the following heads:

1. Profits on the disposal of lands and the creation of ground-rents.

2. Profits from the company's participation in concessions, such as the development of the resources of building materials on the property, and joint interests in building undertakings and other enterprises carried on within the town, such as stores, cinemas, hotels, restaurants, nursery gardens, etc.

[1] See Appendix B.

3. Rents and profits from sports grounds, recreation or assembly rooms, clubs, swimming baths, motor services, or other businesses in which the company may own an interest.

4. Rates chargeable on the property for public services rendered by the company.

5. Rents and profits from the company's agricultural estate.

It is estimated that the revenues of the company will, at an early date, suffice to pay the dividend on the original capital, and leave a balance of revenue that will materially assist in the development of the amenities of the town, thus tending to create higher land values and to secure still further the shareholders' interests. . . .

The essence of the company's undertaking is the conversion of agricultural land having a comparatively small value into urban land ripe for building, and capable of producing good ground-rents. Land in the immediate vicinity of a station twenty-one miles from London will often realise from £500 to £1,000 an acre, even without such amenities as exist at Welwyn. The company's estate provides ideal residential sites, and is also admirably situated for manufacturing purposes. Having regard to the heavy present demand for building sites, there should be no difficulty in securing the rapid development of 600 or 700 acres in the neighbourhood of the station. The development of this area alone should produce a revenue of at least £35,000 per annum.

The capital value of the land will increase *pari passu* with development. The combination of the estates which have been purchased from Lord Desborough and the Marquis of Salisbury has considerably enhanced the value of the whole. It is estimated that with the development of 600 or 700 acres, the estate will be worth at least £500,000, apart from the value of the buildings and public services owned or partly owned by the company.

The revenue-producing capacity of the company's undertaking may be gauged from the fact that the area of the proposed town and the population to be provided for will approximate to those of Cheltenham, Colchester, Eastbourne, Southport, Carlisle, Luton or Dewsbury, according to the census of 1911. Within this area the company will command, in addition to its ownership of the fee-simple of the land, a virtual monopoly in respect of a large number of enterprises of a profitable nature. The revenue consequent upon this monopoly will be employed by the company, after due provision for the shareholders' interests, in behalf of the public purposes of the new town.

## §5

The property consisted of 2378 acres, costing with timber and after payment of legal expenses (but excluding other expenditure) the sum of £105,804, an average of £44 10*s*. per acre. The estate was twenty miles from London on the Great Northern Railway main line, which ran through the middle of the estate from north to south; at the centre of the estate there were branch lines to Hertford on the east and to Dunstable on the west. The town of Welwyn was two miles to the north-west, Hatfield three miles to the south. The estate was on high land, the greater part sloping to the valley of the Lea on the south-west and south-east, and a smaller part sloping to the Mimram (or Maran, a tributary of the Lea) on the north. It was well wooded, and included the hamlet of Handside, the greater part of the village of Hatfield Hyde, and part of Digswell Water. There were comparatively few buildings on the property.

The surveys for the water and drainage schemes proceeded, and a temporary water supply was provided by deepening an existing well at Handside, almost in the centre of the estate, installing a pump and

Welwyn Garden City and the surrounding Towns within a Twelve Miles Radius

building a temporary reservoir. This enabled development to be started. Among the unexpected obstacles with which the company had to contend at the outset was the existence of sporting rights held on long lease over a large part of the estate. To what extent these sporting rights could have held up development on the area which they covered

is a difficult legal question which the company was fortunately not called upon to investigate, owing to the reasonable attitude taken up by the lessee.

Arrangements had already been made with the railway company for a temporary station, which in view of the impossibility of placing it upon the main line without great expense was erected (at small cost) on the Dunstable branch line. A service of trains was given and the station opened for public use.[1]

The development of the estate started with the building of fifty houses by a public utility society formed by the company, under the Housing Act, 1919, called Handside Houses Ltd. These houses were intended for the company's workmen and staff. They were built under a prime-cost contract by Messrs. Trollope and Colls, Ltd., and the first house was occupied just before Christmas in 1920.

## §6

The position of Welwyn Garden City in relation to London, its charming natural features and the demand for houses in the metropolitan area, attracted to it numbers of people who wanted somewhere to live whence they could get to their work in London. It was not the object of the company to build anything in the nature of a suburb, or a mere dormitory town; at the same time, it was desired that the town should not be confined to any one class of the community, and the provision of sites for houses for people whose business was not actually in the town itself was accepted as being within the scope of the company. As a matter of fact, to build houses for residential purposes was the only practicable way to start the town. To wait for manufacturers to build factories on an empty site, and then to erect cottages and houses for the employees of the factories, would have meant waiting in vain. The town had to be begun, it had to show signs of life and stability before it could attract manufacturers and become what its promoters desired it to be. Further, by meeting the demand for such houses, the public services could be more quickly placed on a remunerative basis.

The company considered the question of starting development on that part of the estate near the old Welwyn station, which adjoins the estate on the north. Numerous applications for sites were received from people who wished to be near that station, with its established service of trains,

[1] While this book was in the press the railway company embarked upon the construction of the permanent main-line station.

and, water being available, building could have been begun without delay. But it seemed inadvisable to allow development to take place so far from the spot which the company desired to make the centre of its operations; it was also strongly desired to preserve the beautiful valley of the Mimram and the village of Digswell Water, familiar to all travellers on the London and North-Eastern Railway, and it was decided to permit no building there. Sites were therefore offered on Handside Lane, Brockswood Lane and High Oaks Road, on 999-year leases at fixed ground-rents, within walking distance of the new station, which were taken by public utility societies, by individuals for their own use, and by speculative builders. Labour-Saving Houses Ltd. and Welwyn Homes Ltd. were two societies formed to take advantage of the facilities offered by the Government under the Housing Acts of 1919 for the building of small middle-class houses. These societies, being among the first to build on the estate, had specially favourable terms offered to them by the company. The first society started with a scheme of twelve houses, followed immediately by a further twenty-eight which were let to tenant investors. In spite of the high costs of building, this society, unlike most other public utility societies that built in 1920, reached a sound financial position, as the result of careful management and an enterprising policy of further building as prices fell. Altogether the society has built ninety houses. All these houses are attractive in appearance, and being carried out as part of a consistent scheme, have contributed considerably to the architectural harmony of the town.

Most of the early applicants for houses asked for plots ranging from a quarter of an acre to an acre each. Coming to a garden city, they had the idea that big gardens would be the rule. It was found that most of the applicants had very little idea of the amount of gardening labour involved in a plot of the size they desired. They did not realise that in practice very few people who are engaged in other business can look after a garden of a quarter of an acre, to say nothing of half an acre or more. In these days, with the cost of living much greater than it was before the war, the expense of keeping up a large garden is more than most people are able to bear; so that there was much to be said for a house with a garden of such a size that it could be maintained with a few hours' work a week. The company found, therefore, that when it came to the point, the number of people who really wanted a large garden was small, and the plots subsequently taken, with few exceptions, varied in size from an eighth up to a fifth of an acre.

§7

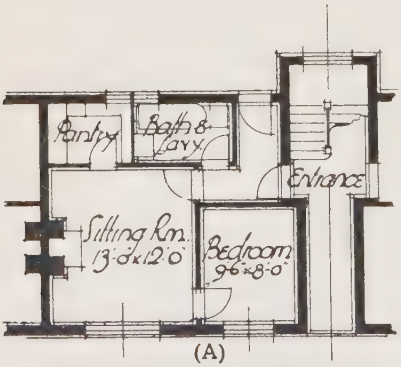
The high costs of building and engineering work and the difficulty of raising money were considerations that led the company to formulate its development policy with great care. The early stages of development caused the directors many anxious hours, and forced them to shoulder considerable personal financial burdens. With a view to economy, the policy adopted was to carry out development in small well-defined sections, and to complete building on the roads as they were constructed. To carry this policy out consistently and to avoid holding vacant plots it was decided to form a subsidiary company to undertake the erection of houses. The difficulty of getting building labour and materials, owing to the scarcity of both, was another factor that induced the company to set up a building organisation of its own, thus making the town independent of building firms with interests elsewhere, and making it possible to get together workmen and staff to specialise on the particular requirements of the town. The project of a continuous building programme for a period of twenty years or so was a further important consideration. This building company was formed, the finance being found by the company, and a joinery works erected. The first scheme of twenty-six houses, designed by the company's architect, proving satisfactory, the organisation was enlarged and a definite building programme undertaken. The building organisation has now become an important auxiliary to the company's scheme of development. Unmistakable advantages have thus been secured, the plots have been built upon as the roads have been constructed, resulting in the greatly improved appearance of the town, and the building operations have proved to be remunerative. The houses are specially designed by the architect in conjunction with the building company, and a variety of plans has now been evolved for houses costing from £500 to £3000, suitable for almost every position and aspect. The architectural character of the town is largely being formed by this means, and there is little doubt that the system is securing the full benefits of orderly town-planning, combined with sound architectural treatment of buildings of every description. Moreover, the experience that is being gained results in a steadily improved type of plan, both the architect and the builder enjoying the advantages of working together, which ensures a high standard of building and design, accompanied by economy in construction as well as greater efficiency in planning.

§8

A housing exhibition was one of the early events in the life of the new town, and as was proved at an earlier date at Letchworth, such an exhibition is a mixed blessing. The proprietors of the *Daily Mail* newspaper had conceived the idea of building an ideal village as a step towards helping to solve the housing problem. Negotiations were opened for a site at Welwyn Garden City, and an agreement was entered into with the Garden City Company for the leasing of an area of land. The village was intended to consist of permanent houses of various designs and in various forms of construction, and to possess some architectural features and a character of its own. The scheme was an ambitious one; and though it was not completely carried out, 43 houses were erected on 6·3 acres. The "village" was only such in name, and now forms part of the town, and though buildings of a character suitable for exhibition purposes are not usually such as should be allowed to exist permanently with other buildings, the architectural control that was exercised succeeded in bringing them into harmony with the rest of the town. The association of the newspaper with the estate caused many people to think that it had some interest in the Garden City Company's scheme; but that, of course, was erroneous.

§9

Among the domestic buildings of the town is Guessens Court, a group of forty flats erected by the New Town Trust as a co-operative housekeeping scheme. It consists of a two-storied block forming three sides of a quadrangle, the fourth being partly occupied by the restaurant block. Each flat is self-contained, and has an entrance lobby, sitting-room, bathroom and kitchenette, with one, two or three bedrooms. The rent includes the use of the dining-room. Additional furnished bedrooms are also available where tenants can accommodate friends. The grounds include tennis-courts, and there is accommodation for bicycles and motor cars. Boot-cleaning, coal-carrying and other facilities are provided. The single bedroom flats are for bachelor men and women; the larger flats offer




(A)

GUESSENS COURT—Type of Flat
*H. Clapham Lander, Architect*

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: A HOUSE ON VALLEY ROAD

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: A HOUSE ON GUESSENS ROAD

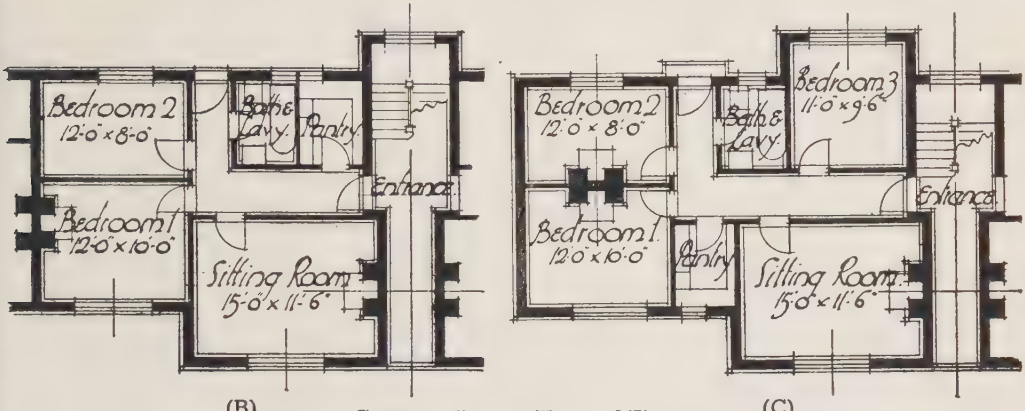
*Louis de Soissons & A. W. Kenyon, Architects.*

WELWYN GARDEN CITY: AT THE CORNER OF BROCKSWOOD LANE AND HIGH OAKS ROAD

WELWYN GARDEN CITY: BROCKSWOOD LANE

accommodation for families, or friends living together, who desire to be relieved of the burdens of housekeeping.

As a condition precedent to the granting of a lease, an investment of £100, £150 or £200 is required, depending on the size of the flat, in 6 per cent. cumulative income stock, which investment is repayable at the termination of the lease. The leases are for three or seven years.




GUESSENS COURT—Types of Flats
*H. Clapham Lander, F.R.I.B.A., Architect*

The flats are of three types, A, B and C, each containing an entrance lobby, sitting-room, bathroom, kitchenette; type A has one bedroom, type B two bedrooms, and type C three bedrooms. The rents are as follows:

| | |
|---|---|
| Type A. First Floor . . . | £45 per annum |
| Type A. Ground Floor . . | £40 „ „ |
| Type B. First Floor . . . | £75 „ „ |
| Type B. Ground Floor . . | £70 „ „ |
| Type C. First Floor . . . | £100 „ „ |
| Type C. Ground Floor . . | £95 „ „ |

The rates are payable by the tenants.

The service provided is as follows: The tenants are required to spend in the dining-room a minimum of:

| | |
|---|---|
| Type A . . . . | 8*s.* a week per flat. |
| Type B . . . . | 16*s.* a week per flat. |
| Type C . . . . | 20*s.* a week per flat. |

A staff of maids is available for service in the flats at moderate charges by the hour or day. Ample accommodation for bicycles and perambulators is provided at a nominal charge of 10*s.* per annum. Lock-up rooms for boxes, etc., can be hired at 50*s.* per annum, or *pro rata* for part of a room. The gardens are maintained by the Trust, for which no charge is made.

§ 10

Among the architects who have worked in the town, in addition to Mr. Louis de Soissons, the company's architect, are Mr. C. M. Crickmer, Mr. Allen Foxley, Messrs. Hennell and James, Mr. H. Clapham Lander, Mr. Barry Parker, Mr. A. W. Kenyon, Messrs. Williams and Cox, Messrs. Bennett and Bidwell, Mr. C. J. Kay, Mr. Berkeley Wills, Mr. J. C. Tickle, and Messrs. Mauger and Tanner.

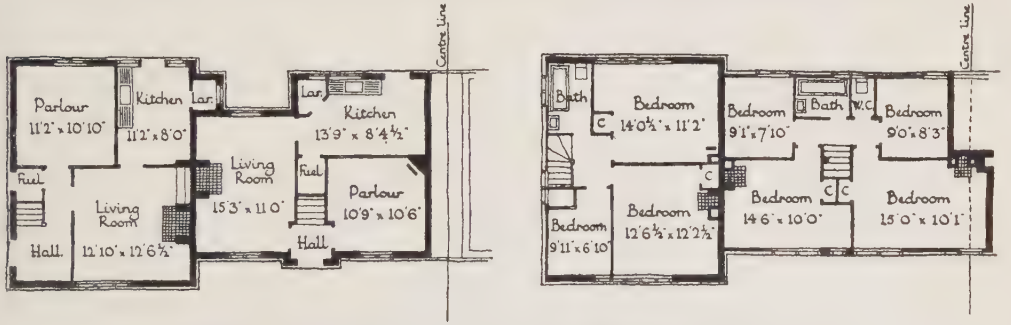
§ 11

The first cottages built by Handside Houses Ltd., to which reference has already been made, were placed on both sides of an existing road and form a very pleasant group. The original intention in building them was to sell them, at cost, to the local authority as houses for the working classes under the special provisions of the Housing Act of 1919, but that course was not followed. As there was insufficient lodging accommodation in the district and the difficulty of getting skilled workmen in 1920 was very great, a camp was erected for the workmen on the estate, consisting of reconstructed army huts for sleeping quarters, club rooms, canteen, kitchen, etc. The expense of constructing and running the camp added to the cost of development, but it was considered to be inevitable, though the social as well as economic drawbacks to this kind of accommodation were considerable. Had it been possible to provide sufficient houses for the working population at the start, the building of the camp would have been avoided. But there was no one to do it: the local authority would not (it was not at that date sufficiently convinced of the permanence of the garden city, and in any event, from its own point of view, why should it?), the Ministry of Health would not (though it had the necessary powers, had the Government really desired to support garden cities), and the Garden City Company was straining its resources to the utmost in building even fifty houses. It is clear, however, from the experience gained at Welwyn that the provision of a large number of cottages for the working population engaged upon the building of the town should be undertaken as the first work of development.

As the only practical means of getting working-class houses built to let at weekly rents was through the local authority (the financial assistance offered to public utility societies being insufficient to enable them to build such houses), the local authority had to be convinced that it should build. The number of men working upon the estate

was increasing and the demand was obviously great; but it was not certain to the local authority that the scheme would proceed, and it was only with great reluctance (which was natural under the circumstances) that it was induced to move. At last, in 1921, a start was made by the rural district council with 50 working-class houses, followed by a second scheme of 93 houses in 1923–4, a third scheme of 100 houses in 1924–5, and a fourth scheme of 200 houses in February

KITCHEN, LIVING-ROOM, PARLOUR AND THREE BEDROOMS — LIVING-ROOM, PARLOUR AND THREE BEDROOMS

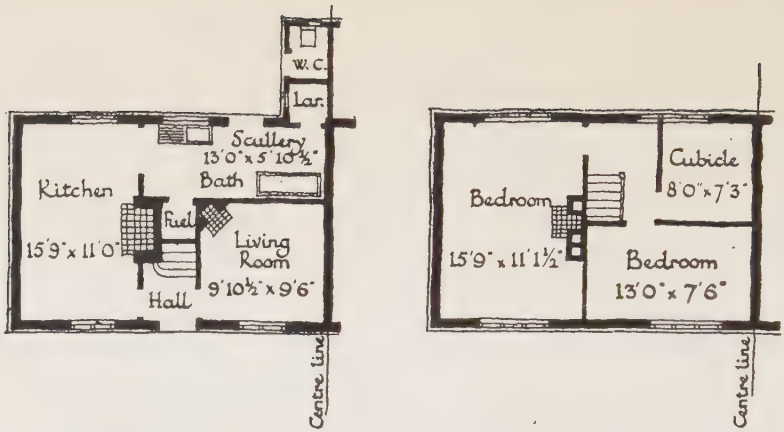



KITCHEN, LIVING-ROOM, PARLOUR AND THREE OR FOUR BEDROOMS

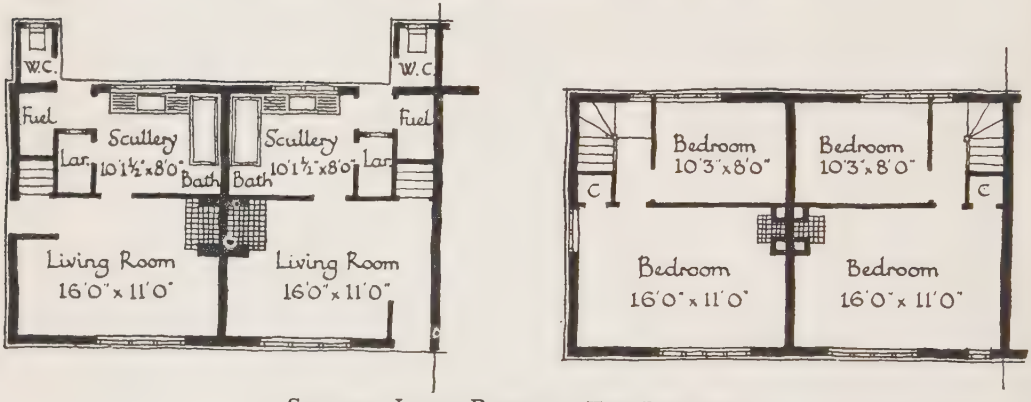
The District Council's first scheme of fifty houses (1921). (Housing Act 1919.)
*Louis de Soissons, F.R.I.B.A., Architect*

1925.[1] The first group of 50 houses was built under the "Addison" Act of 1919, the rents being fixed by the Ministry of Health, and the loss to the ratepayers being limited to the produce of a rate of a penny in the pound. All the other houses receive the fixed Government

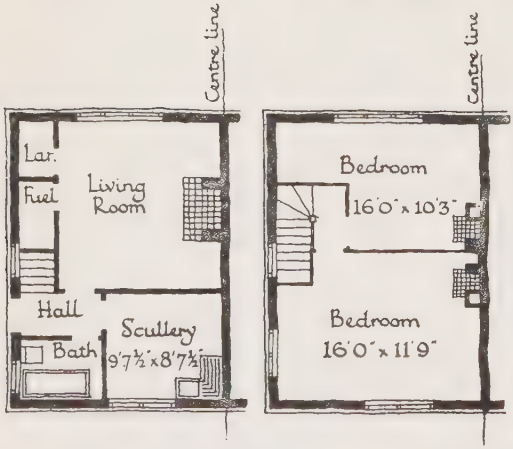
[1] The tremendous handicap placed upon the development of the scheme by the difficulty of getting workmen's houses is the most significant fact to be noted in connection with the establishment of Welwyn Garden City. Only by the most strenuous efforts were the district council and the Ministry of Health persuaded to put building in hand. It took a year to get the first fifty houses and two years to get a further ninety-three. The company is now, fortunately, in a position to undertake building itself, though the cheapest rented houses must still be provided by the district council, because of the more favourable financial terms available to it.



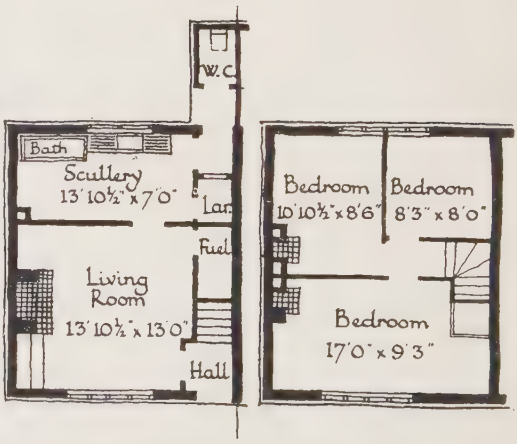

KITCHEN, LIVING-ROOM, PARLOUR AND THREE BEDROOMS




SCULLERY, LIVING-ROOM AND TWO BEDROOMS




SCULLERY, LIVING-ROOM AND TWO BEDROOMS (END HOUSES)




SCULLERY, LIVING-ROOM AND THREE BEDROOMS

The District Council's second scheme of ninety-three houses (1923). These houses were planned in consultation with the workmen with a view to meeting their expressed demands and to reaching the lowest possible rents. The condition under which the scheme was prepared was that the houses were to be economically self-supporting, without subsidy from the State or the local authority, and that result (something of a *tour de force*, however) was attained. When the Housing Act, 1923, was passed, they were entitled, however, to the subsidy of £6 per annum for twenty years.

*Louis de Soissons, F.R.I.B.A., Architect.*

subsidy under the Housing Acts of 1923 and 1924. Any deficits on the schemes would fall on the Welwyn Garden City parish alone, the rest of the rural district being thus under no risk of a rate-burden by reason of the relatively large amount of housing in the new town. The particulars of the houses are as follows:

| Scheme | Number of Houses | Average Cost per House (including Land and Development) | Rents |
|---|---|---|---|
| No. 1 | 50 | £527 | 8*s.* 9*d.* to 11*s.* 9*d.* |
| No. 2 | 93 | £330 | 6*s.* 6*d.* to 8*s.* 0*d.* |
| No. 3 | 100 | £475 | 7*s.* 0*d.* to 8*s.* 6*d.*[1] |
| No. 4 | 200 | (about) £530 | (about) 10*s.* 6*d.*[2] |

A differential rent scheme was adopted by the council in 1924 for its houses. A basic rent was fixed for each house, according to its accommodation and relative value, and the rents actually charged to the tenants are adjusted by:

(*a*) an addition to the rent for each lodger taken;

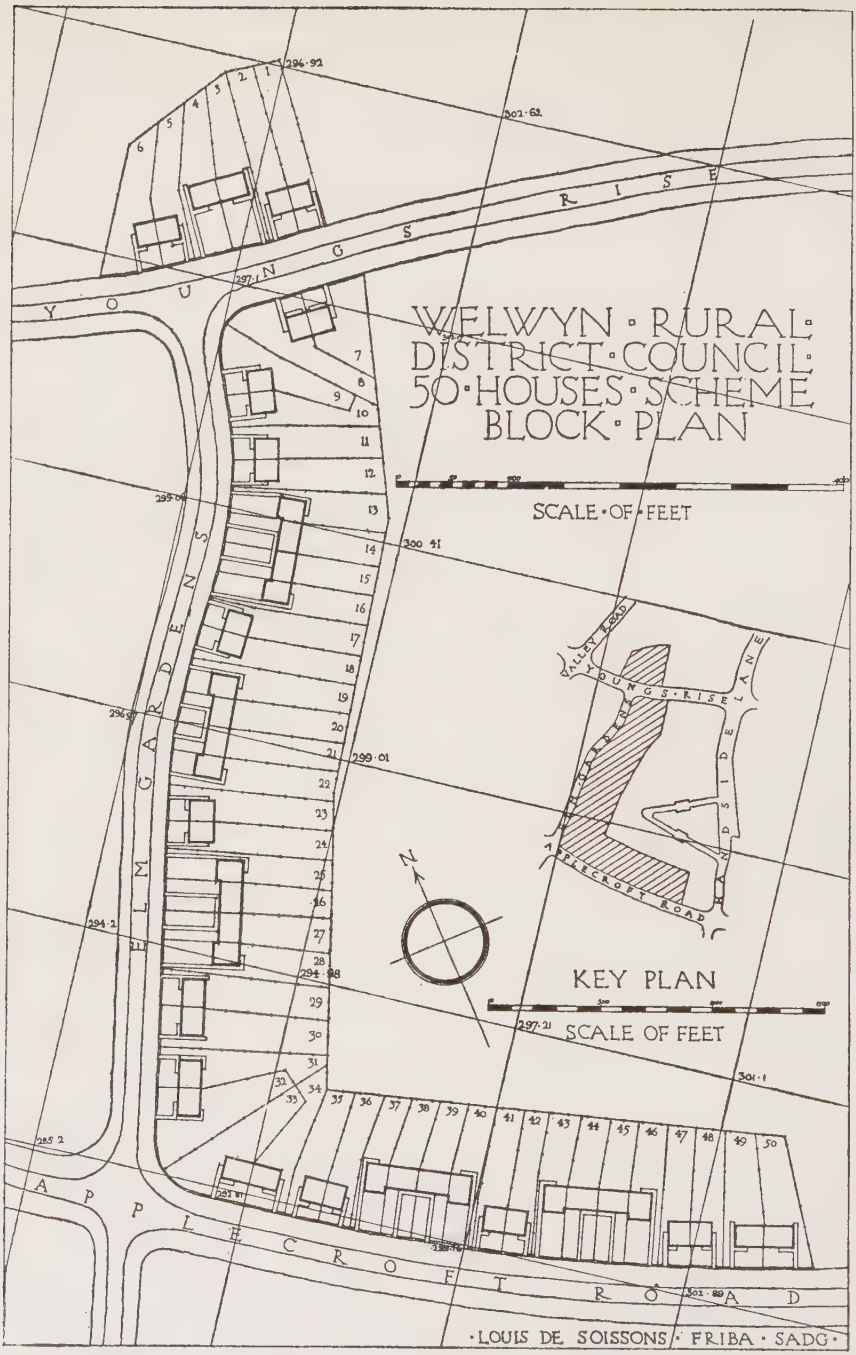
(*b*) a deduction for each child of school age, or under sixteen years of age.

The basic rent was fixed at 9*d.* per week above the amount necessary to provide for outgoings and reserves. A tenant without children pays the basic rent. There is a deduction from the basic rent of 6*d.* per week for *each* child living in the house; and an addition of 1*s.* per week for every lodger in the house. A tenant with five children would thus pay 2*s.* 6*d.* per week less than a tenant in a similar house without children. For the purpose of the child allowance, only children under sixteen for whose maintenance the tenant is responsible count, including children by a former marriage of either parent and adopted children. Any person living in the house except the tenant, his wife, their children and the parents of either of them, counts as a lodger. The scheme is, of course, experimental at present.

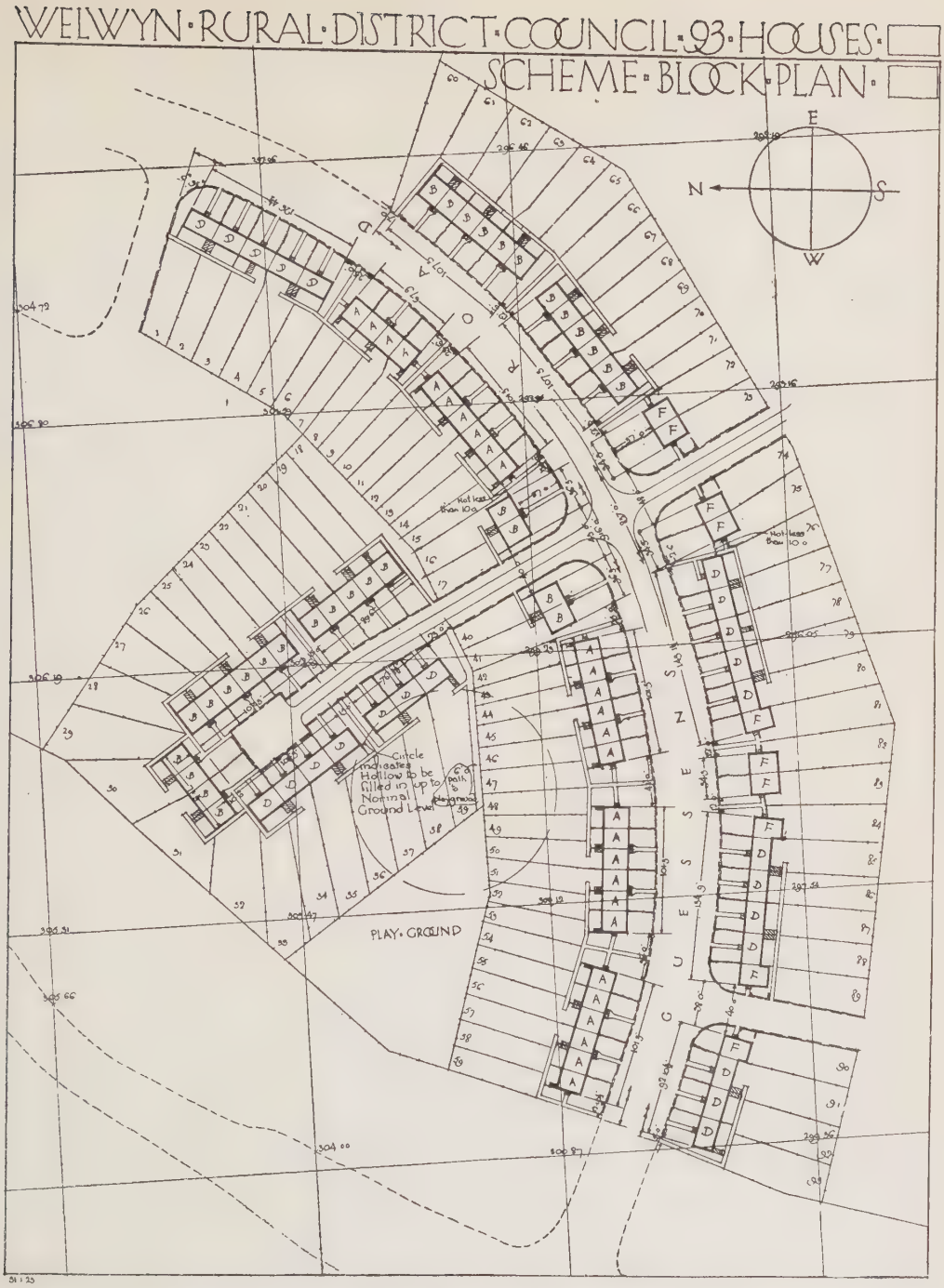
The object in building the houses has been to meet the needs of the working classes at a rent which the average family could afford to pay. The first scheme comprised houses with scullery and one or two living-rooms and three or four bedrooms. Small cottages with two bedrooms were built in the later schemes in response to the demand for that type of cottage by people without children or with one child only,

[1] Differential rent scheme in operation for these houses. The rents quoted are average rents for the respective types.

[2] Rents not yet fixed.

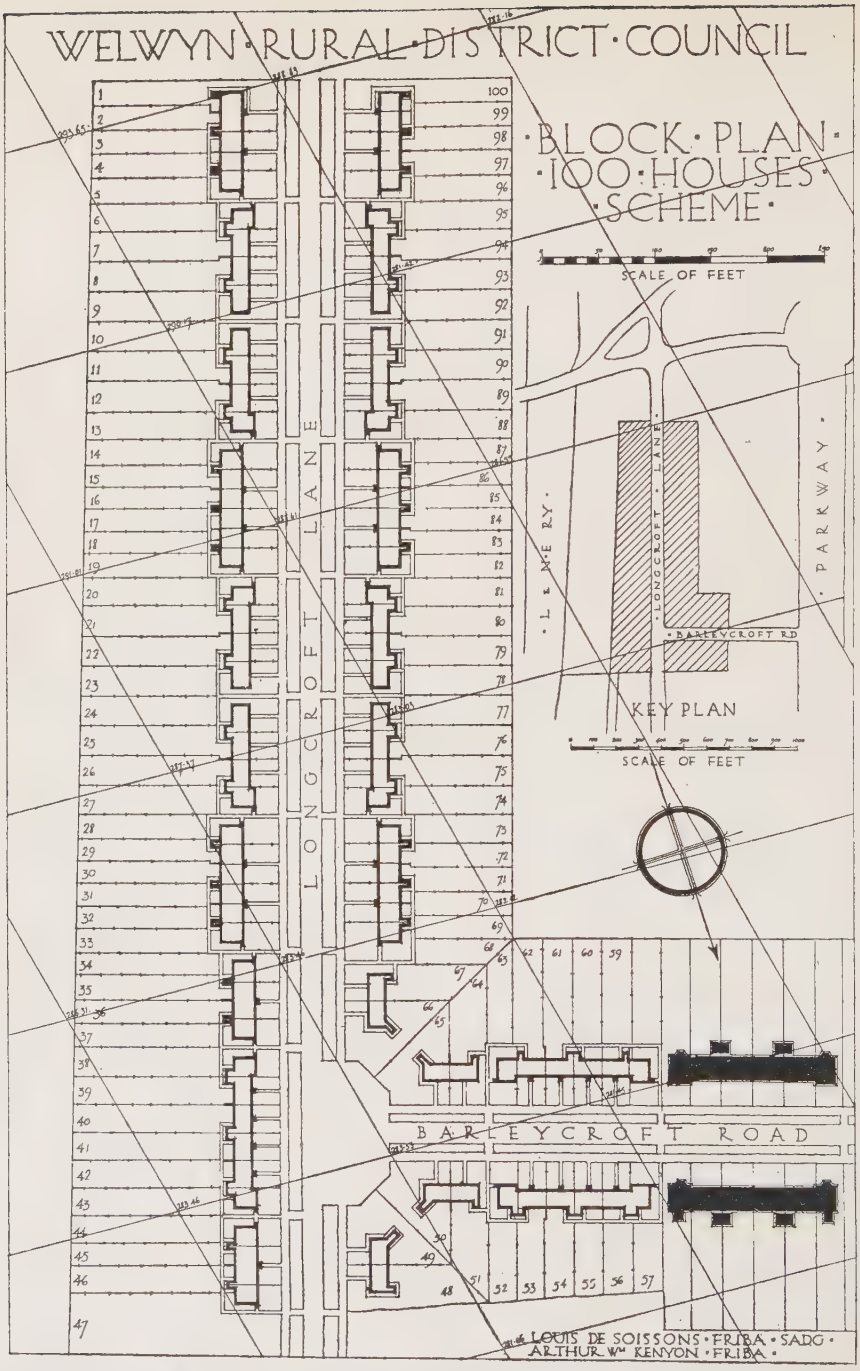

WELWYN · RURAL · DISTRICT · COUNCIL · 50 · HOUSES · SCHEME · BLOCK · PLAN
SCALE · OF · FEET
KEY PLAN
SCALE OF FEET
YOUNGS RISE
ELMGARDENS
APPLECROFT ROAD
LOUIS DE SOISSONS · FRIBA · SADG ·

THE FEATURE OF THIS LAY-OUT IS THE SETTING BACK OF BLOCKS OF FOUR COTTAGES TO GIVE A SENSE OF SPACE AND INTERESTING GROUPING. FIRST HOUSING SCHEME (1921)


WELWYN · RURAL · DISTRICT · COUNCIL · 93 · HOUSES ·
SCHEME · BLOCK · PLAN ·
E
N
S
W
PLAY · GROUND
Circle indicates Hollow to be filled in up to Natural Ground Level
Path to Allotments
Not less than 10 o
Not less than 10 o
GUESSENS

ECONOMY WAS A RULING FACTOR IN THIS SCHEME, AND ADVANTAGE WAS TAKEN OF THE CURVED ROAD TO GIVE VARIETY TO A SCHEME WHICH WOULD OTHERWISE HAVE BEEN MONOTONOUS. SECOND HOUSING SCHEME (1923)

*Louis de Soissons, F.R.I.B.A., Architect.*


WELWYN · RURAL · DISTRICT · COUNCIL
· BLOCK · PLAN ·
· 100 · HOUSES ·
· SCHEME ·
SCALE OF FEET
· L & N·E R.Y. ·
· LONGCROFT · LANE ·
· PARKWAY ·
· BARLEYCROFT RD
KEY PLAN
SCALE OF FEET
LONGCROFT LANE
BARLEYCROFT ROAD
LOUIS DE SOISSONS · FRIBA · SADG ·
ARTHUR Wm KENYON · FRIBA ·

A Long Straight Road in which interest has been created by an occasional breaking forward of the Building Line and Gabled Ends, accompanied by a slight set-back of Intermediate Blocks
Third Housing Scheme (1924)

WELWYN GARDEN CITY: HANDSIDE LANE
The cottages in the background were the first to be built in 1920 (Crickmer & Foxley, Architects).

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: THE DISTRICT COUNCIL'S FIRST HOUSING SCHEME (1921)

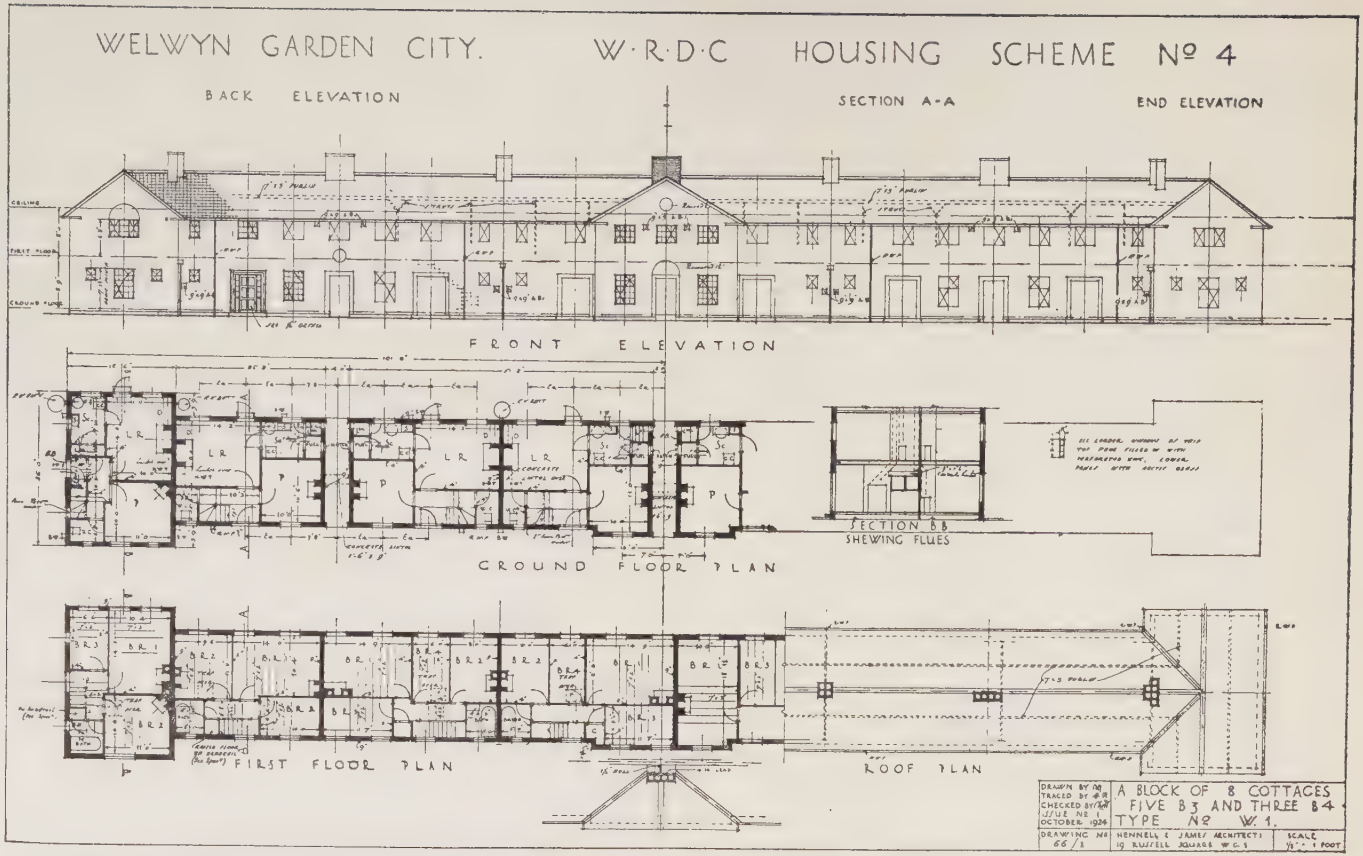
PLATE XL.

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: THE DISTRICT COUNCIL'S SECOND HOUSING SCHEME (1923)

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: THE DISTRICT COUNCIL'S SECOND HOUSING SCHEME (1923)


WELWYN GARDEN CITY. W·R·D·C HOUSING SCHEME Nº 4
BACK ELEVATION
SECTION A-A
END ELEVATION
FRONT ELEVATION
GROUND FLOOR PLAN
SECTION B.B SHEWING FLUES
FIRST FLOOR PLAN
ROOF PLAN
A BLOCK OF 8 COTTAGES FIVE B3 AND THREE B4
TYPE Nº W. 1.
HENNELL & JAMES ARCHITECTS 19 RUSSELL SQUARE W.C.1

PLANS OF A BLOCK OF EIGHT HOUSES IN THE DISTRICT COUNCIL'S FOURTH HOUSING SCHEME (1925)

Consisting of two hundred houses (Housing Act, 1923). The long blocks give a good architectural effect, and the disadvantage of the long block has been got over by three through passages.

*Hennell and James, Architects.*

who could only afford a small rent and did not desire to take in lodgers. The cottage plans for the second and third schemes were discussed with representatives of the working people; the second scheme was actually worked out by a committee appointed by the workmen with a view to building the kind of cottage that was required. Great attention has been paid not merely to the planning of the houses, but to their construction, to get buildings at the lowest possible cost, having regard, however, to future maintenance expenses. The second scheme was one of the cheapest carried out in the whole country since the war. The lay-out of the schemes was also studied to get a good architectural effect within the limits of the severest possible economy, and the methods adopted by the architect to that end in the second and third schemes deserve close attention.

Owing to what appeared to be inevitable delays in connection with the district council's schemes, the company determined at the close of 1924 to take advantage of the recent housing legislation and to build itself. A scheme for 450 houses was therefore prepared by the architect, in association with the building organisation, and a society called the Welwyn Public Utility Society was formed to build with the assistance of loans under the Housing Acts. The first unit of the scheme comprises 100 houses and is now being completed. The houses consist of a good living-room, parlour, scullery, and three bedrooms as the normal type, a few houses having two bedrooms and others having four bedrooms. A proportion of the houses are without parlours. Every house has a separate bathroom. The gardens vary from a tenth to a twelfth of an acre and adjoin the houses. Building is in concrete, with steel casements and red-tiled roofs. Special attention has been paid to the heating and hot-water systems, the latter being on the "calorifier" system, and many of the houses being centrally heated from the kitchen range. All the houses have electric lighting and gas for cooking and heating.

The average cost of the houses in the first unit of the scheme is £497 each, to which must be added the cost of the land and the construction of roads and sewers, £50, architects and legal fees, etc., £17, a total of £564. Under the Housing Act of 1923 the society is entitled to a subsidy of £6 per annum for twenty years for each house, which is capitalised for a sum of £77, bringing the net cost down to £487. The society is able to obtain a loan of £430 under the Housing Act, 1924, s. 5, leaving £57 to be found by the society in 6 per cent. loan stock.

The loan charges, repairs, collection, etc., amount to an average of 13*s.* per week per house, plus 3*s.* 7*d.* for rates and water, a total of 16*s.* 7*d.* a week. As the rental value to the tenant varies with the size and number of the rooms, the rents have been fixed, including rates, at

Welwyn Public Utility Society's Scheme for 450 Houses (1925)

These houses are built in poured concrete in order to utilise as much unskilled labour as possible. They are more amply planned than the later cottages built by the District Council.

*Louis de Soissons, F.R.I.B.A., Architect.*

from 13*s.* 6*d.* to 19*s.* 6*d.* per week. The differential renting system already referred to is adopted also in connection with these houses, which means an addition of 9*d.* per week to the basic rent of each house, making possible an abatement from the basic rent of 6*d.* per child to all

tenants with children. An addition of 1s. per week for each lodger is made. The Garden City Company will be responsible for the management of the houses, and the company has guaranteed the local authority against loss on the loans advanced to the society.

§ 12

The early residents, apart from the staff and workmen of the company, were middle-class people who wanted houses near London. The facilities offered by the new town in the way of train service and other public services were necessarily restricted to begin with, but they were sufficient to make it possible to live there, and the first comers had the vision to see what the town was likely to become. An active policy of building stimulated growth and created confidence, and the population steadily increased. In October 1921 there were three significant developments; the estate became a civil parish, which was an important step forward in local government and of inestimable value to the whole scheme; the shopping organisation was started; and the electricity supply came into operation.

§ 13

When the estate was purchased, part of it was in the parishes of Digswell and Welwyn in the rural district of Welwyn, part in the parish and rural district of Hatfield, and a small part in the parish of Tewin in the rural district of Hertford. One of the difficulties of the situation was that the estate was about equally divided between the two rural districts of Hatfield and Welwyn, the latter being one of the smallest rural districts in the country, with an area of only 6480 acres. The new civil parish had to be wholly in either Hatfield or Welwyn district, but for the latter to lose one-sixth of its entire area would have meant that the remaining part would soon have been absorbed by another district. To get over the difficulty it was agreed that Welwyn and Hatfield should be united as a poor-law union, thus bringing the garden city estate into one union, and that the Welwyn rural district should absorb the whole of the estate. The whole of the Welwyn Garden City area was then, by the order of the Ministry of Health, made a new civil parish under the name of Welwyn Garden City in the rural district of Welwyn, with a parish council.

Although the Welwyn rural district is so small, the centre of the

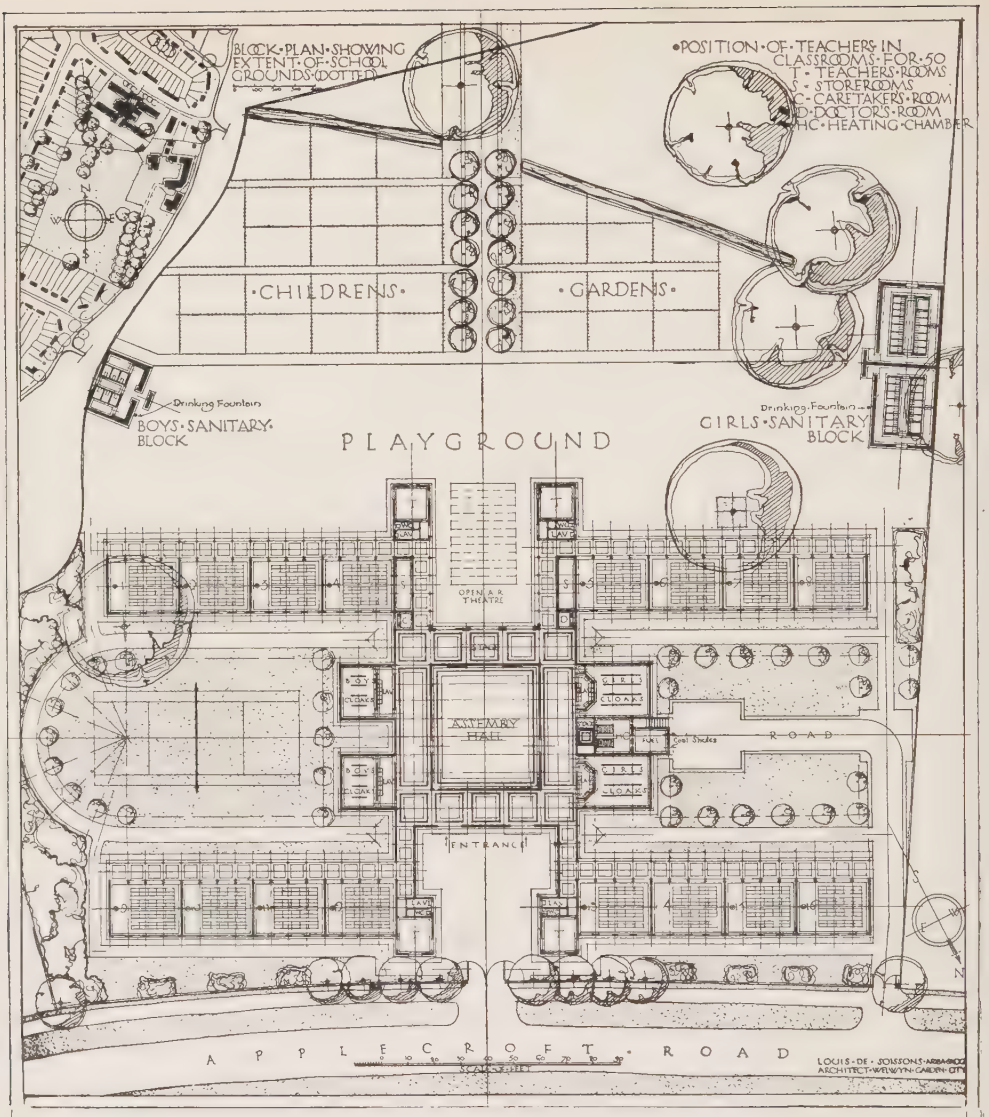
garden city is more than two miles by road from the small town of Welwyn, and there is a marked sense of distance between the two places; this affected the interest taken by the district council in the new development. To enable the working of the local government administration to proceed more easily it was decided in 1924 to create a parochial committee under the Public Health Act of 1875, consisting of the four district councillors representing the Welwyn Garden City parish and all the members of the Welwyn Garden City Parish Council, the clerk to the district council acting as clerk to the committee, with the clerk to the parish council as assistant clerk. The matters with which the parochial committee deal are:

1. The management of the council's houses at Welwyn Garden City.
2. Refuse disposal.
3. Consideration of plans submitted.
4. Highways.

The actions of the parochial committee have to be confirmed by the district council. The future development of local government is uncertain, but the time is not far distant when the representatives of the town will be in a majority on the district council, so that the present disadvantage of being in the hands of a somewhat uninterested local authority will disappear. The ultimate interests of the new town and the rural district lie very close together, and it is unlikely that they will be disturbed. Economy of administration will no doubt be carefully studied, and the creation of an urban district will be affected by that consideration as well as by the position of the rural area. The future boundaries of the district are a further matter upon which it is too soon to speak, though it is certain that changes will be necessary.

## § 14

It was natural that education should be given attention at an early stage, for the garden city is above all for the young. The Hertfordshire County Council, which is the education authority, having already had experience of a garden city, was at once prepared to take up the question of building a school, and a site of nearly three acres was selected as soon as development started. The Garden City Company was anxious to encourage the best educational facilities in the town, and many discussions took place between the representatives of the County Education




Welwyn Garden City County Elementary School
(First unit 1923; completed 1925)

Committee, the Board of Education, and the company's directors and officials. The high cost of school buildings and the wave of economy that was passing over the country at the time had some influence on these discussions; but the authorities were really sympathetic, and when the company's architect, having made a study of the best examples of school-planning in this country and abroad, submitted a design that combined an advanced type of school building with a comparatively low cost, the scheme was considered practicable, and the county council decided to proceed with it at once. The school is a single storey building arranged in four sections with an assembly hall in the centre. The first unit, constructed in 1923, consisted of two sections, and was carried out at a cost of £9030, equivalent to £22 10*s*. per school place. The two final sections are about to be built. The design of the school is intended to provide the maximum of fresh air, to make a light and cheerful building, and is a pleasant contrast to the dull and heavy buildings of so many existing schools. Each class-room has the main light on the north side, and opens on to a covered verandah on the south side by means of folding glass doors. In suitable weather these doors are kept open and the whole school is practically converted into an open-air school. At other times each room is assured of through ventilation; the central low-pressure heating system ensures an equable distribution of heat, and gives a class-room temperature of 60° Fahrenheit when the outside temperature is 25°. The heating system is also used for the drying of boots and coats in the cloak-rooms. The two end rooms of each wing, or section, are separated by folding partitions, thus providing space for school assemblies and indoor games pending the erection of the hall. Between the two wings is a partially enclosed space which is intended for use as an open-air theatre or out-door hall, on each side of which is a staff-room opening to the playground.

The construction of the building is of timber and concrete blocks, and both the walls and the flat roof contain an air space, which deadens sound and helps to maintain an equable internal temperature. The colouring of the school is bright and has been considered with a view to its effect upon the scholars.

The school stands upon a high and well-wooded site, which provides not only a tarred playground, but also about a quarter of an acre of school gardens, and ornamental grounds planted with flowering trees and shrubs, and flower borders. The Welwyn Garden City Educational Association, formed to foster and unify educational work in the town, is

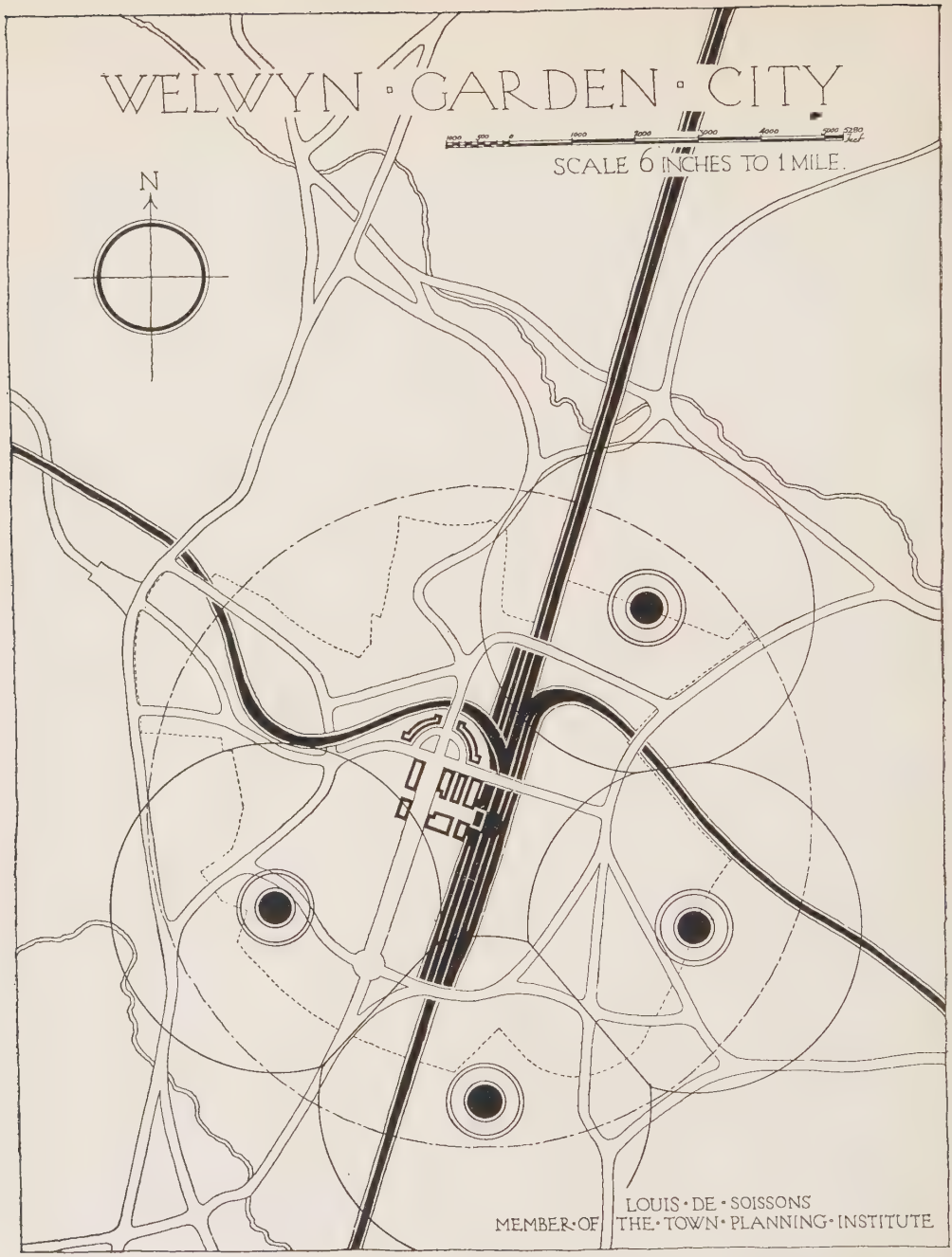
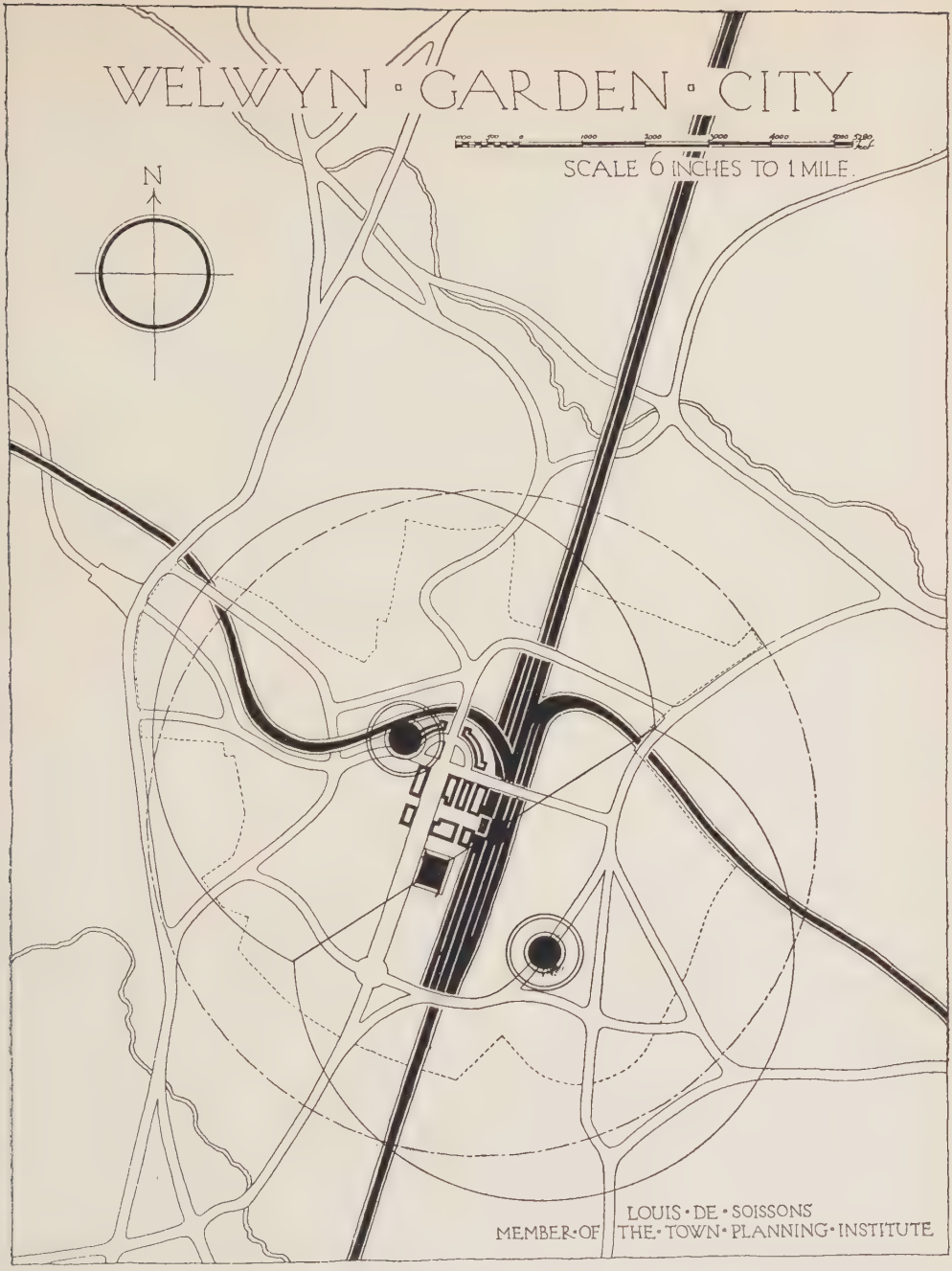



DIAGRAM SHOWING THE LOCATION OF PUBLIC ELEMENTARY SCHOOLS WITH HALF-MILE RADII OF EFFICIENCY

The schools have been placed as near the periphery as possible to bring them close to playing-fields on the outskirts, at the same time serving the maximum residential area. The dotted circle represents a mile radius from the centre of the town.




PROPOSED SITES FOR SECONDARY SCHOOLS WITH THREE-QUARTER-MILE RADII OF EFFICIENCY

Placed as near the centre of the town as possible with the idea of getting the advantage of transport facilities. The sites are within half a mile of playing-fields on the outskirts. The rectangular block near the centre is intended as a site for a Technical Institute. This and the preceding diagram should be studied in conjunction with the town-plan diagrams in the next chapter.

directing its attention to assisting the school managers to make the school so efficient and attractive that most of the parents in the town will be glad to make use of it. A "school development fund" was formed to augment the provision made from the rates and taxes, and an appeal was made to parents and others for the sum of £500 a year for five years. The Garden City Company agreed to contribute £100 a year for five years to the school managers to supplement the headmaster's salary, substantial help was offered by the New Town Trust and the Rowntree Trust; but more than half of the fund is made up by contributions from individual parents (many of whom voluntarily pay fees such as would be paid at a private school) and other residents. This fund makes possible the strengthening of the staff and equipment of the school in a number of ways. The county council has done all it can to give the school a good start, but is precluded from a greater expenditure on this school than upon others in the county. The school is under the elementary school regulations, but the managers use, in as many ways as possible, the standards and methods that have proved their value in secondary as well as in elementary school work. The question of the provision of the full secondary range of work for the town is left for development according to circumstances. Sites for other schools are provided for in the town-plan.

§ 15

The first church building was the St. Francis Hall, built as a first unit of a church on a site taken for the Church of England. The Roman Catholic Church, the Free Church, and the Society of Friends have taken sites and have schemes for permanent buildings. The question of church bells was given some attention, a strong feeling against bell-ringing being expressed, and the parish council passed a resolution suggesting that the use of "calling bells" should not be permitted. Prolonged negotiations followed with religious bodies. Finally the Roman Catholic authorities agreed:

> Not to ring or allow to be rung any bell or peal of bells on the premises at such times or for such periods or in such manner as to cause the same to be a nuisance or annoyance to or an interference with the comfort or amenities of the inhabitants of Welwyn Garden City residing in the neighbourhood.

The Church of England is likely to agree to the same restriction. The Free Church agreed to have no bells without consent.

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: A HOUSE ON BRIDGE ROAD

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: A SKETCH FOR S. FRANCIS CHURCH
The Hall on the left-hand side has been built.

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: HANDSIDE COUNTY COUNCIL SCHOOL (1923)

WELWYN GARDEN CITY: THE CHERRY TREE RESTAURANT

At an early date in the development of the scheme Lord Dawson of Penn urged the company and the community to take steps to establish a unified health service for the town, and, following upon an address given by him, a Health Council was formed, consisting of the resident medical men, with representatives of the workers, the employers, the parish council, and various societies. The council has provided a first-aid centre, an infants' welfare centre and a district nurse, and is associated with the school clinic and the dental clinic. A private nursing home established in the town also works with the council. As the population increases the work of the council is expected to develop on a large scale. The vital statistics for the town are not at present available.

§ 16

Before the end of 1920 the first of the important subsidiary enterprises of the Garden City Company was formed in the Welwyn Restaurants Ltd. (this company preceded the building company in point of time). The restaurant company erected a building opposite the temporary station to supply visitors and others with meals and entertainment and to serve as a social centre for the town. The Cherry Tree Restaurant was opened at Easter 1921, and the original and interesting architectural treatment of the building aroused immediate interest. The restaurant became at once a centre for meetings, parties, dances and other gatherings, which had previously taken place in an old army hut which formed a wing of the company's offices. Two hard tennis-courts were constructed by the company near the restaurant, and a tennis club was formed. At a public meeting of the residents a number of committees was set up to start a variety of activities, including dance, chess and music societies, etc. Application was made to the licensing justices for a licence for the restaurant, but was refused; the application was renewed the following year and then granted. The company did not follow the precedent set at Letchworth by taking a poll on the question of the licence, as the directors did not believe that it was right to use the garden city project for the introduction of peculiar social experiments and to confuse the significance of the scheme with so highly controversial a subject as local option. The Garden City Company therefore retained a controlling interest in the restaurant company, provision being made for surplus profits to come to the parent company for the benefit of

the town. The restaurant is conducted on the principle of disinterested management—that is, the management is given no interest in the sale of alcoholic drinks, and food and meals are obtainable at all times. An area of four acres of woodland was leased for the restaurant, and the open verandah upon which meals can be served for the greater part of the year makes it an exceedingly pleasant spot. There is a billiard-room, and quoits, bowls, putting-greens and other games are provided. One other licensed house on the edge of the estate has also been leased to the restaurant company.

A workman's club under the control of the company was formed when development started, in response to the demand of the workmen, and this club was registered under the Licensing Act. It was closed, however, when the restaurant was licensed, and it is unlikely that the company will allow any premises to be used for the supply of intoxicants, in registered clubs or otherwise, except under its control.

## § 17

The Parkway Hall, built by the Welwyn Stores Ltd., the Lawrence Hall, and the Backhouse Hall are used for meetings, concerts and social purposes. A kinema is proposed to be built at an early date, and for the time being films are shown in the Parkway Hall; the surplus profits of the kinema will go to the town in the same way as the restaurant profits.

## § 18

The name of the town gave rise to a certain amount of discussion. The directors of the company had adopted the name because it both described their scheme and indicated its location; they recognised that it was somewhat lengthy, and that the term "garden city" having been used by building developments that were not entitled to it was misunderstood, but these objections were not considered weighty enough to reduce the great value that they believed the name to possess. In 1924 the parish council called a meeting of the inhabitants to discuss the name, and it is interesting to record that the meeting was practically unanimous in the desire to retain it.

The growth of the town is shown by the following table:

| Year | Number of New Buildings [1] | Estimated Cost of New Buildings | Population [2] |
|---|---|---|---|
| 1920 | 136 | £176,000 | 430 |
| 1921 | 262 | £277,000 | 851 |
| 1922 | 438 | £445,000 | 1417 |
| 1923 | 658 | £597,000 | 1893 |
| 1924 | 919 | £884,000 | 2584 |

## § 19

Welwyn Garden City was embarked upon at a time when almost everything was against its success. Prices were high, economic conditions were unstable, and there was a general pessimism throughout the country as to the condition of trade and, indeed, as to the national outlook altogether. The difficulties that were encountered were enormous; but the promoters believed that the scheme was sound, that if carried through with sufficient determination it could be made of the utmost value to the country, and that the hope of the future was in such communities as they desired to establish. In the remaining part of this book we shall discuss in some detail further aspects of the growth of the town. Though it is still in its early youth the form and character of the place can be discerned, and what it may come to be as it grows can already be distinguished; most important of all, its economic future is assured, and what those who first began the garden city movement believed to be the sure financial basis of such a scheme, the increment in value that arises by reason of the establishment of a population, is true of Welwyn Garden City and guarantees its prosperity.

[1] Including buildings in course of erection.

[2] Including the original population of 400. The figure is arrived at on the basis of a census taken by the company.

# CHAPTER II

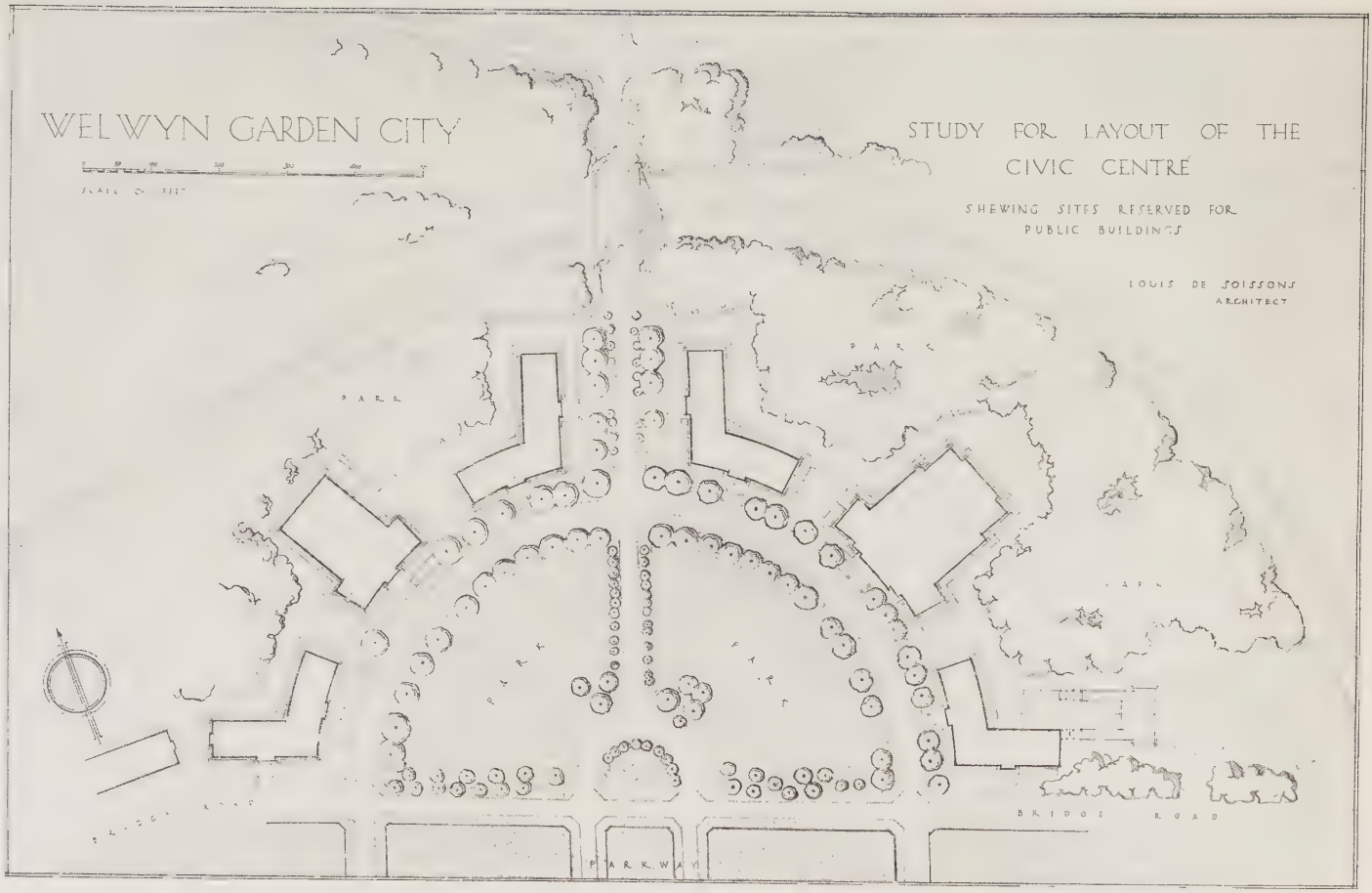
## THE TOWN-PLAN

That art will make our streets as beautiful as the woods, as elevating as the mountain-sides; it will be a pleasure and a rest, and not a weight upon the spirits to come from the open country into a town; every man's house will be fair and decent, soothing to his mind and helpful to his work. . . .—WILLIAM MORRIS, *Hopes and Fears for Art*.

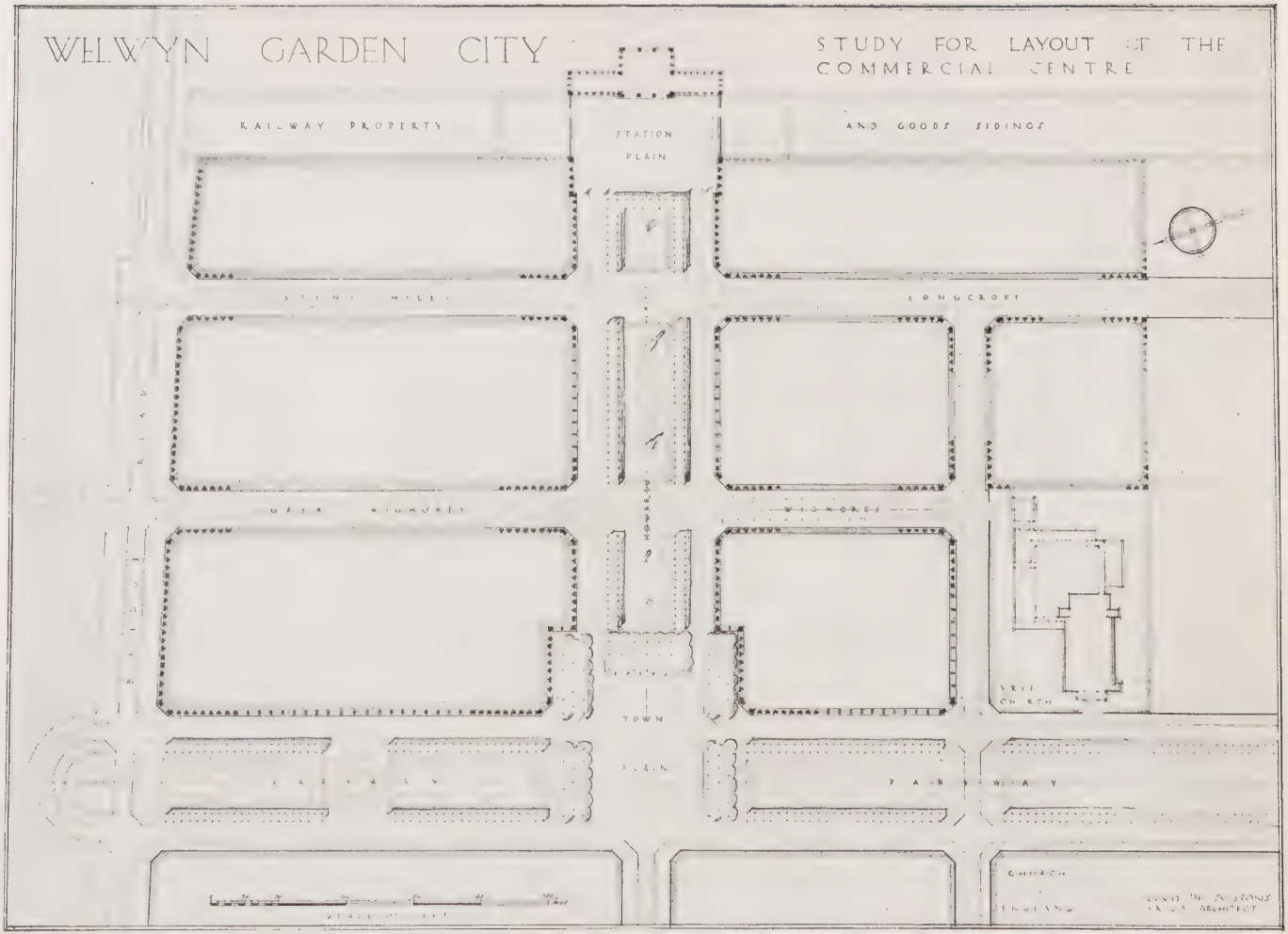
### § 1

THE object of the Welwyn Garden City was to provide an illustration of a garden city having special relation to London. The town-plan had to provide for a definitely limited urban area surrounded by a rural belt. The limit of population for the urban area was fixed at 40,000, with the intention of increasing it to 50,000 if found practicable. The whole of the estate was ideal for building and could have been laid out for residential purposes with great profit. The company's scheme, however, was to plan a town with industries, a commercial centre, and houses for all classes of the community.

The main structure of the plan was settled by the site itself. There was never any question of attempting to make an ideal plan. Physical conditions suggested the general features of the lay-out; for what had attracted attention to the site even before the land was purchased were its railway facilities, its relation to London, and the suitability of certain land for factory development. The estate lies on both sides of the London and North-Eastern Railway main line; branch lines from the east and west meet the main line in the centre, and run alongside it for a distance of two and a half miles to the junction at Hatfield. The estate is therefore cut into four parts by railway lines. The Great North Road passes through a part of the estate and forms its western boundary for some distance; other roads running east and west touch it on the north and south. The comparatively short length of existing metalled roads was a marked feature of the estate in its original condition, though there was a number of unmetalled roads and many footpaths. There was considerable timber, chiefly oak, and the north-western section consisted largely of woods




Welwyn Garden City: The Civic Centre




WELWYN GARDEN CITY: THE COMMERCIAL CENTRE

and parkland. Some parts of the woods had been cleared during the war, and the work of tree-felling was still in progress when the estate was purchased. Moreover, a large part of the remaining standing timber had actually been sold, but was bought back by the company at a high price, thus saving an area of picturesque country from being despoiled. Practically the whole centre and southern parts of the estate slope towards the south-east.

§ 2

The method adopted in planning the estate was to get a contour plan prepared, the water supply scheme and the main lines of the drainage scheme settled, a general survey made to enable the physical features of the site to be known sufficiently to decide upon the placing of the various parts of the town, and a mineral survey taken to discover the nature of the subsoil and the existence and position of deposits of gravel, sand, brick-earth, etc. A great deal can be done in this matter merely by means of the eye; for an experienced man who knows what to look for can roughly prepare the outline of a plan; but the actual detailed work which needs to be completed before any definite plan can be adopted means a great deal of labour, much time and expense. In the planning of a garden city the needs of a complete town have to be anticipated, and what the community will be likely to require in its public services has to be foreseen. It is necessary to decide what ultimate population is to be provided for and to take into account the character of the town and its probable future industries. The aim in preparing the plan of Welwyn Garden City was to keep the urban area as compact as possible, so that most of the houses would be kept within a short walking distance (say three-quarters of a mile) of the factories and the shops. The whole urban area, for a population of 40,000, including the factory, shopping and residential districts, will need an area of about 1770 acres.

§ 3

The railways running through the estate consist of up and down main fast lines, up and down main goods lines, a single line to Hertford and another single line to Dunstable. The width of the railway land was 130 feet. When the estate was purchased the railway

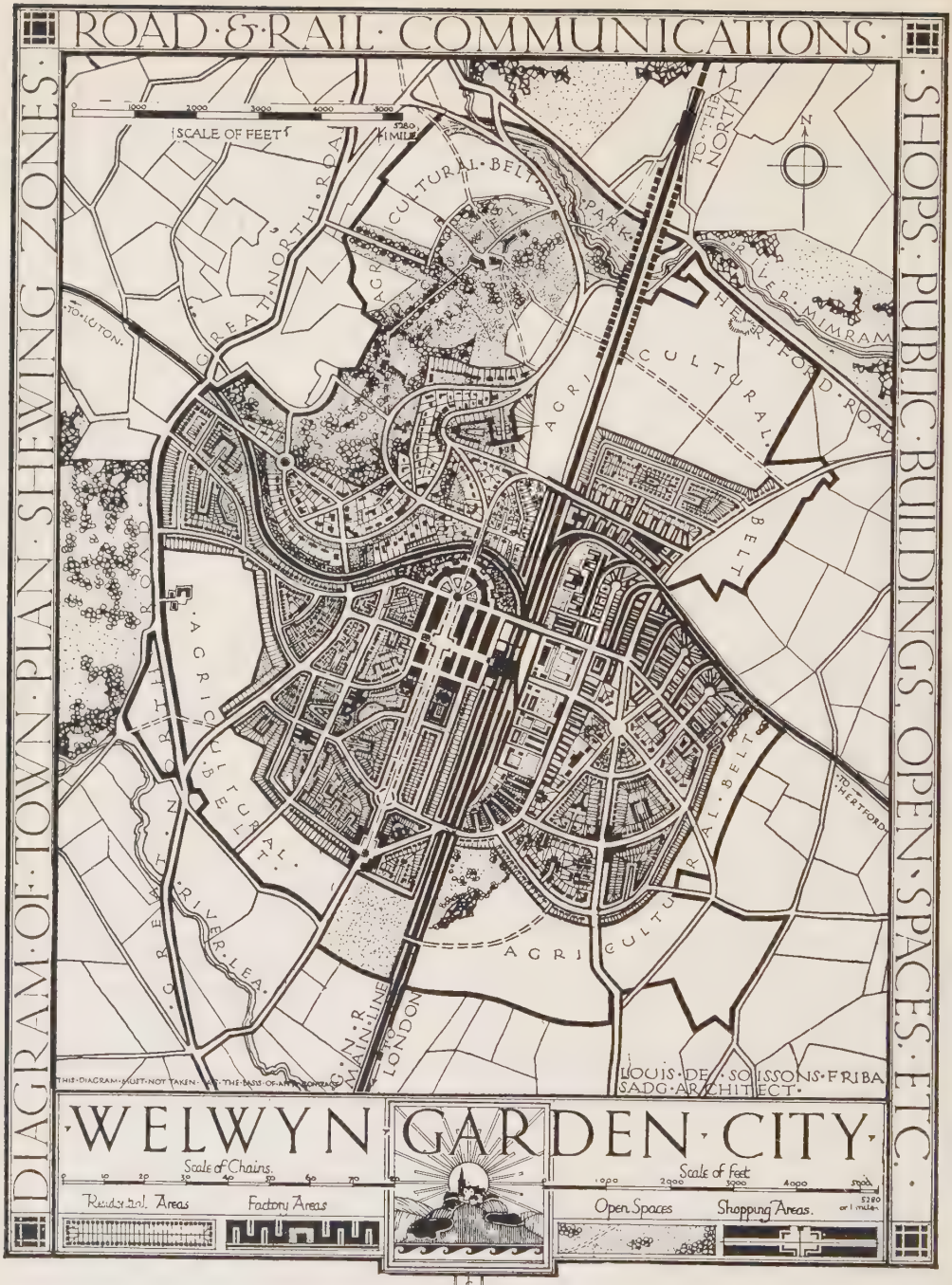
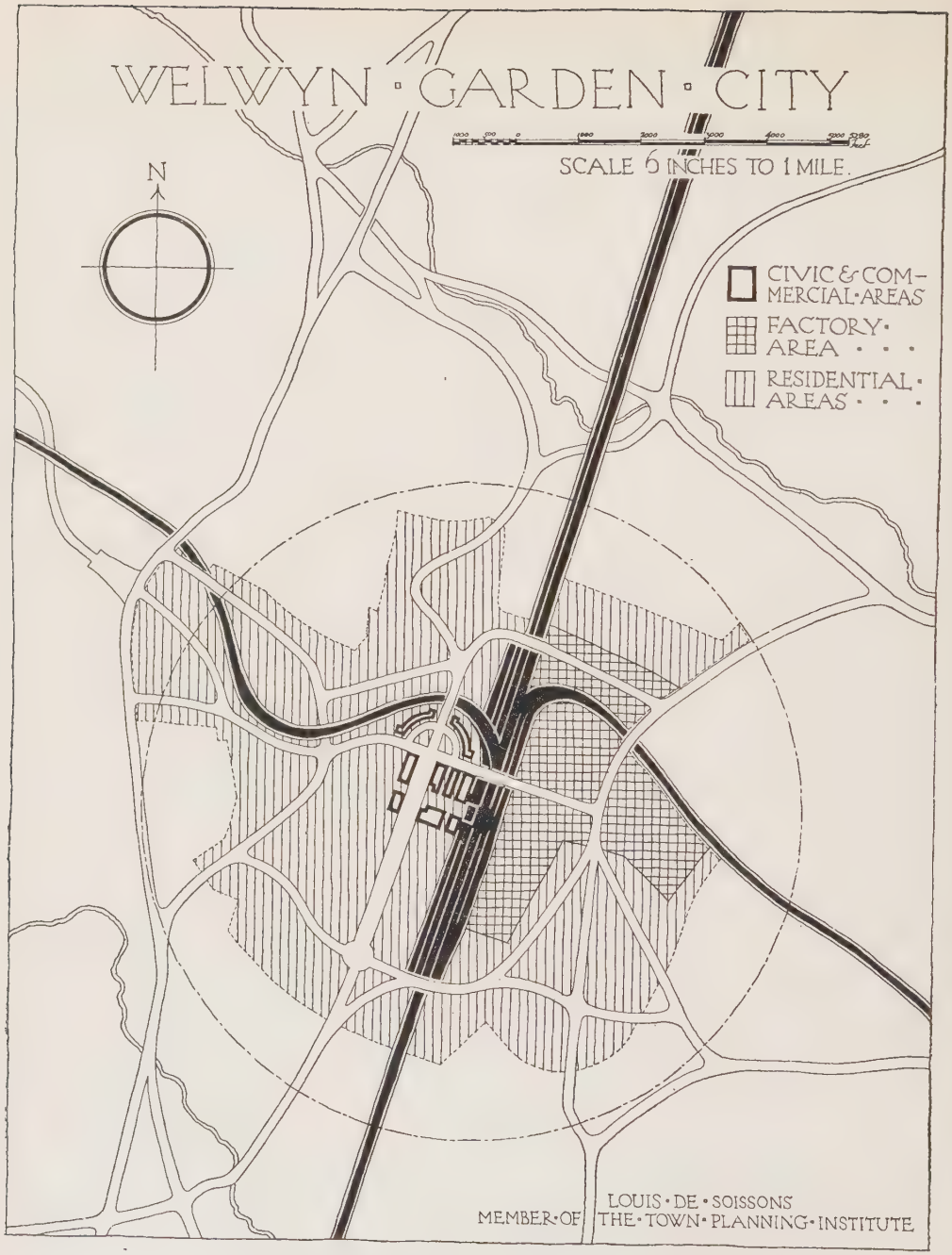



DIAGRAM OF GENERAL TOWN-PLAN

company demanded, as part of the consideration for starting a railway service, that the company should sell them at cost price the land required for future railway purposes. The Garden City Company therefore sold to the railway company an area of sixty-nine acres for the future railway station and goods yard, and for widening the branch lines to Hertford and Dunstable. The effect of that is that the railway company holds an area 650 feet wide through the centre of the town. The division of the town which results has had an important effect upon the town-plan. A belt of trees has been planted along both sides of the railway to screen it to some extent from the rest of the town. There were four existing bridges over the main line of railway, two on the southern part of the estate, a third almost in the centre, and a fourth slightly north of the last. The distance between the two middle bridges is one mile, and the railway company would not agree to a scheme for a fifth bridge between them, so that the third bridge had to be depended upon as the main connection between the two parts of the town at the centre, with the second and fourth bridges as secondary means of access. The site of the permanent railway station was fixed, in agreement with the railway company, a little south of the third bridge.

The town is planned roughly in circular form, the roads radiating approximately from the two middle bridges. These bridges are indeed important factors in the town-plan, and must be considered as governing its main structure. The level land to the east of the railway and to the leeward of the future residential area was the site naturally designed for the factory area; it consists of 170 acres, is practically flat and on the same level as the railway; it is central, near the railway passenger station and within easy reach of the residential areas. On the west of the main railway line, in the bend of the branch line to Dunstable, the civic centre was placed, and on the same side, just south of the civic centre, was put the commercial and business centre. The public buildings, such as churches, halls, municipal buildings, etc., were kept out of the shopping and commercial area as far as possible, with a view to getting the utmost possible concentration of business premises; but there was also another reason for placing the civic centre where it comes in the plan. The civic buildings for a town of 40,000 inhabitants will not be erected until the town reaches somewhere near that population, because the town cannot afford them until then; the sites have, however, to be reserved, so that the method adopted by Mr. de Soissons at Welwyn Garden City was to put the site for these buildings slightly




THROUGH ROADS, RAILWAYS, AND AREAS OF UTILITY
The circle is one-mile radius from the centre.

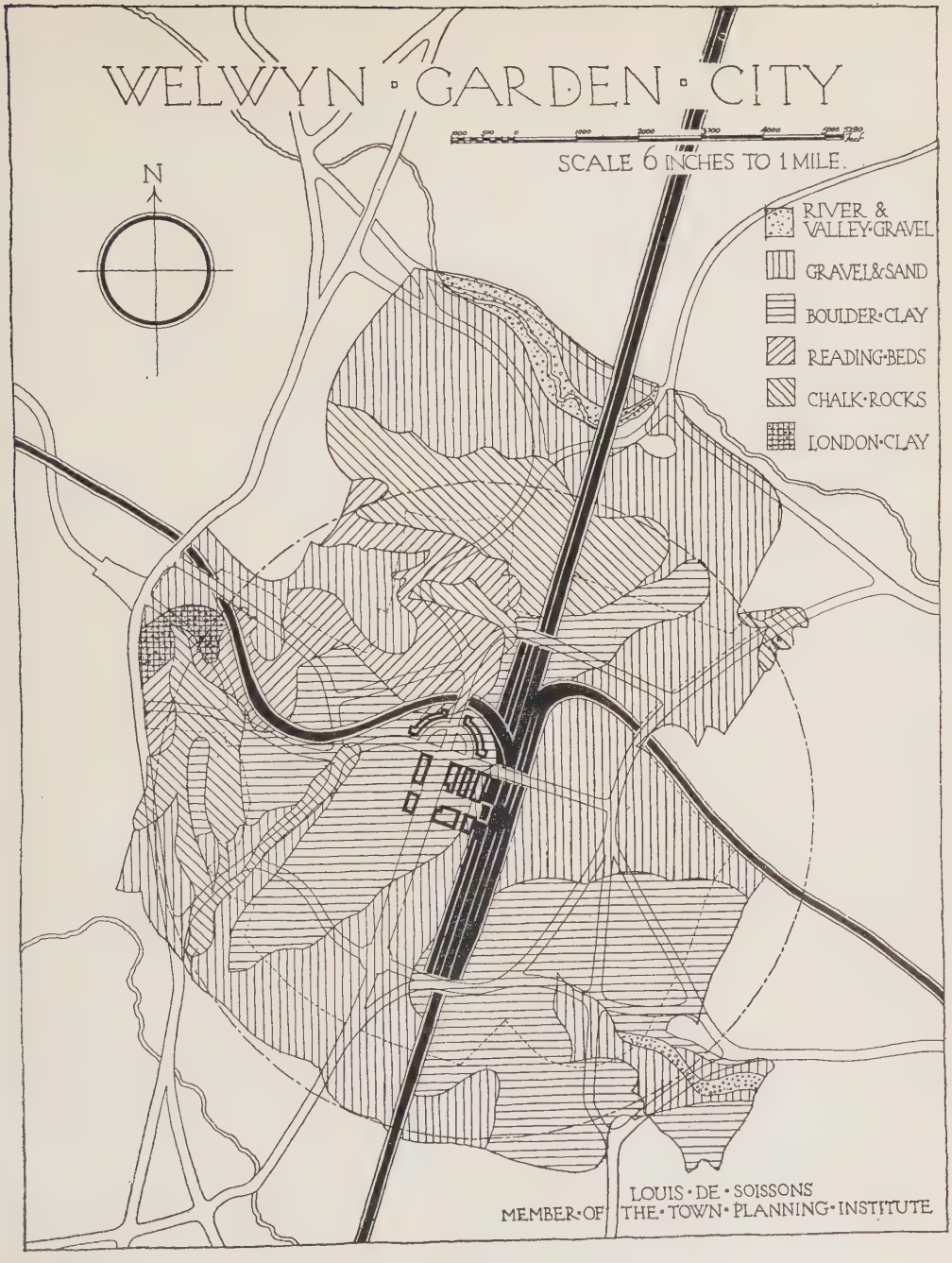



Diagram of Geological Formation

out of the centre of the town, and to treat the site as a park for the time being. The civic centre will therefore be in a park, not so much to get the advantage of such a setting as to avoid vacant spaces in the town centre.

§ 4

The industrial, business and civic areas made the heart of the plan; the residential areas had to be arranged around it, and to it the roads as arteries and veins of the plan had to come. The residential districts had necessarily to be in proximity to the factory area and the station, while the more remote parts, and particularly the north-west woodlands, were chosen for larger houses, with motor access to the Great North Road. It was not intended to segregate the working-class population, and the plan was so designed that properties of various sizes and values could be developed together.

As a main decorative and planning feature a Parkway was designed to run southward from the civic centre, through the centre of the town parallel with the railway for a distance of 1300 yards. The line of Parkway was determined at its northern end by the point at which it was practicable to cross the branch railway line, and at its other end by the point where an existing road led to the Great North Road and London. The level land near the railway gave an opportunity for a secondary short boulevard (called Howardsgate) at right angles to the Parkway and leading to the permanent railway station. Parkway and Howardsgate are of equal width, and allow sufficient space for parking of motor cars on a large scale, should that become necessary in the future.

Accessibility to London had to be provided for in the road-plan of the town, and the main highways were so planned that traffic could get easily and quickly in and out of the town. As motor transport for industrial purposes was greatly on the increase, special provision was made to enable such traffic to obtain easy access to the factory area without passing through the residential or business areas of the town. Provision had also to be made for road traffic to Hertford in the east and Luton in the west.

As the town is on the Great North Road, which has a heavy motor traffic, it was desirable so to arrange the roads in the town that they were not likely in the course of time to act as bye-passes for through traffic. The plan therefore provides for the Great North Road bye-

*Houses by Hennell & James and Williams & Cox, Architects.*

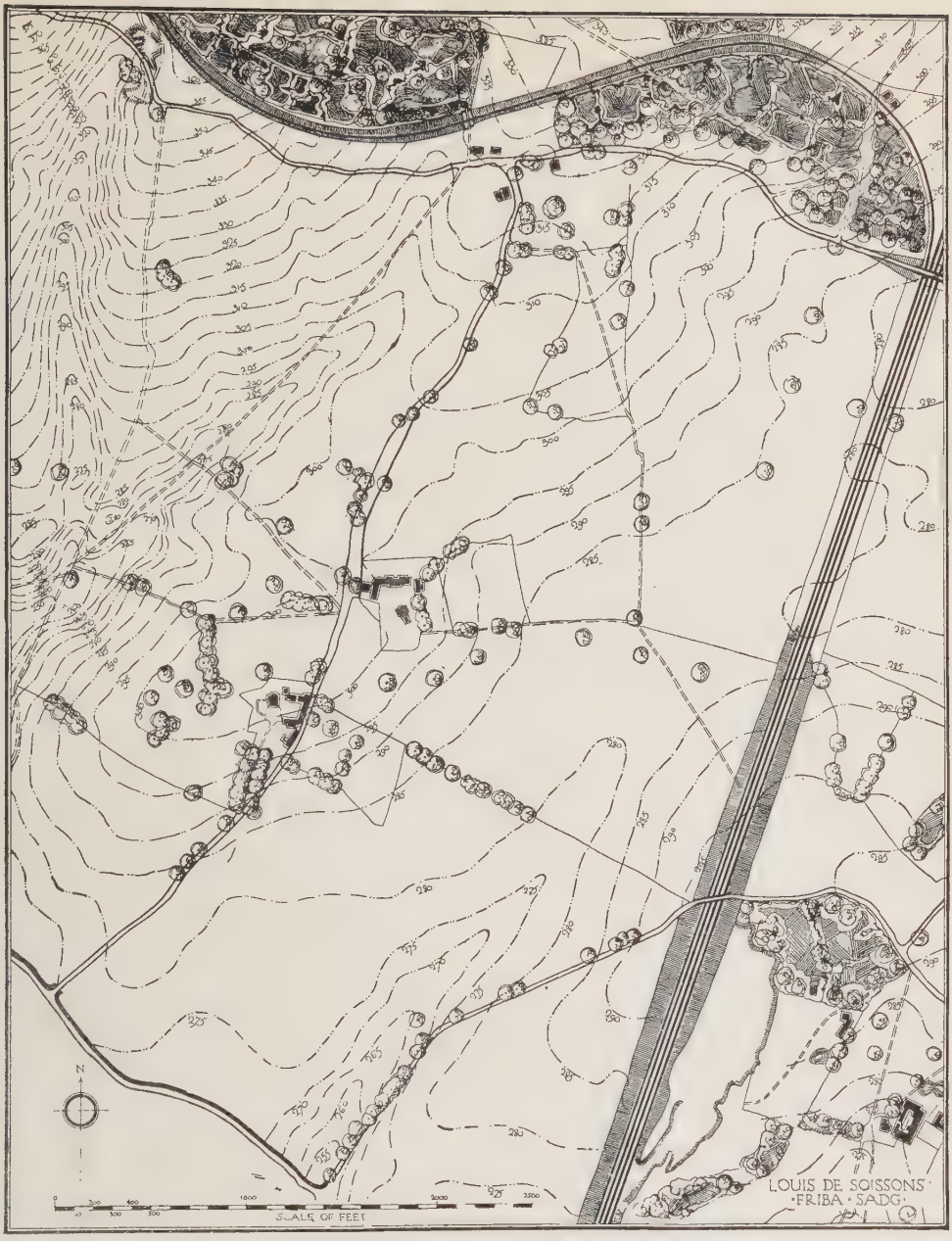
WELWYN GARDEN CITY: BROCKSWOOD LANE

*Houses by Hennell & James and Williams & Cox, Architects.*

WELWYN GARDEN CITY: BROCKSWOOD LANE

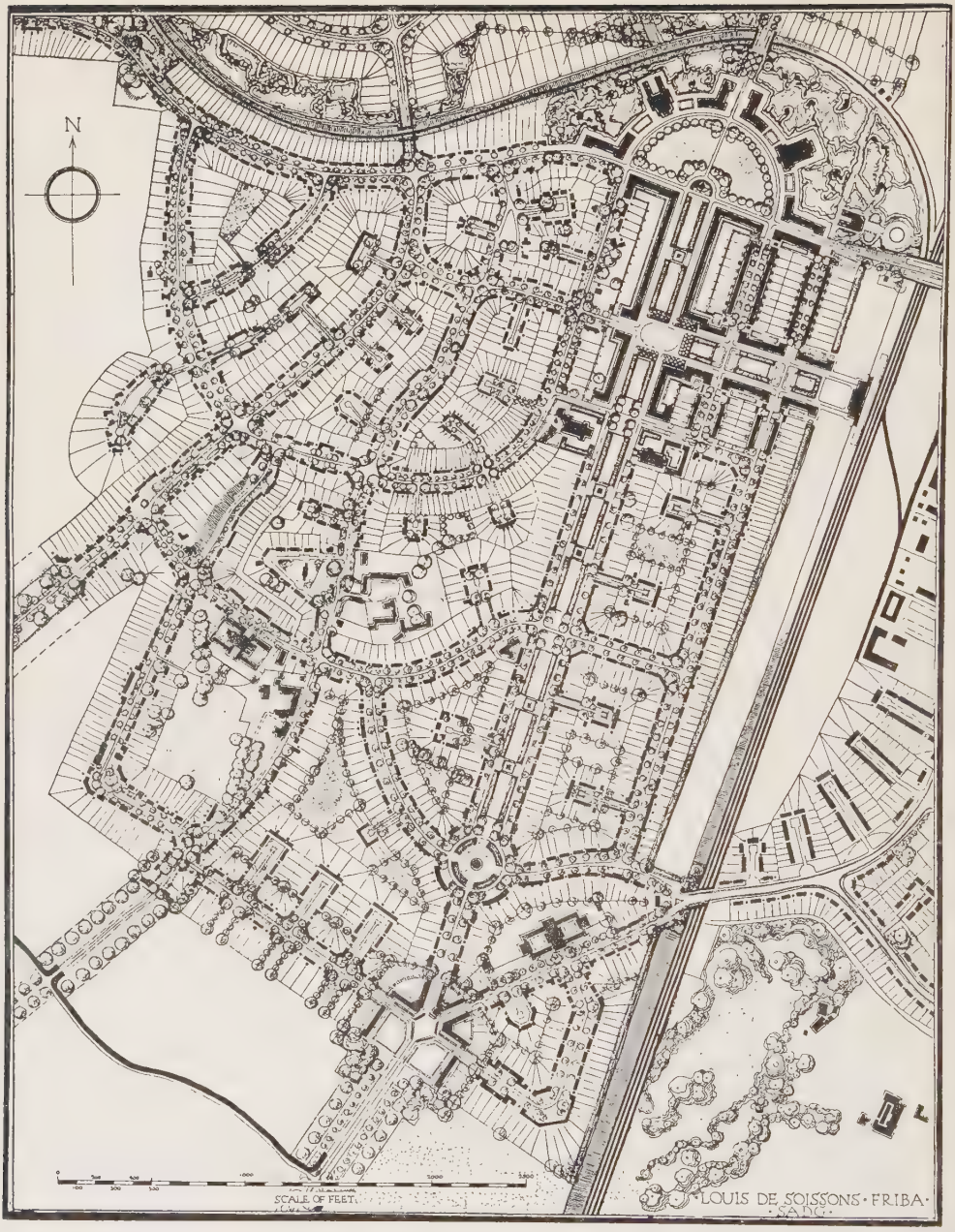
WELWYN GARDEN CITY: HIGH OAKS ROAD

WELWYN GARDEN CITY: HANDSIDE LANE
(See Lay-out, p. 221)




South-West Area: Original Natural Features, Roads, Rights of Way, and Contours

This and the next two diagrams are interesting as showing the planning of a town section and its realisation. The extent to which the architectural scheme has been carried out is noteworthy, and shows the value of organisation in connection with development.

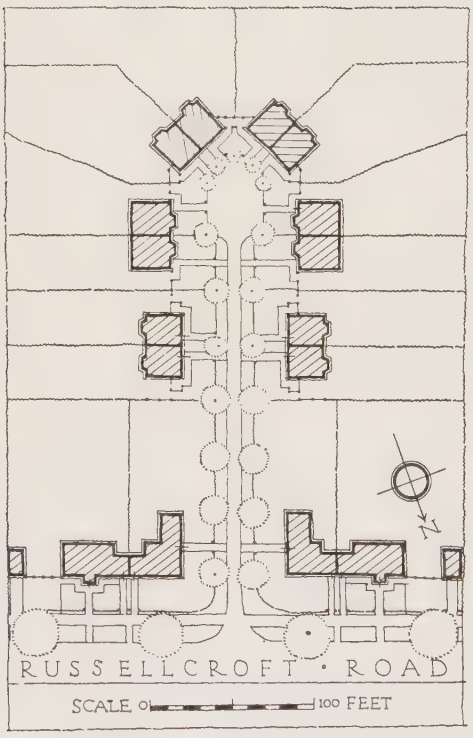



South-West Area: Section of the Town-Plan

South-West Area: Development carried out to 1924

passing the town. It is possible to enter the estate from the Great North Road at three points: at Hatfield from the Hertford road through Hatfield Hyde, which is only likely to be much used when the county roads south of the estate are improved; through Stanborough by the lower part of Parkway, which will lead to the town centre and alternatively to the industrial area; and by the Valley Road, which runs through the residential area. By each of these routes it will be possible to regain the Great North Road at a higher point; but the roads are so arranged, and indeed the contours of the northern part of the estate so required, that the access is not convenient for through traffic, the roads winding along the contours to avoid bad gradients.

§ 5




THE ORDINARY TYPE OF CUL-DE-SAC

The short "close" or "cul-de-sac" is a feature of the town-plan. These roads can be lightly constructed as they do not carry heavy traffic, and they enable land to be developed with a minimum of main-road frontage and generally with economy in sewers. They also reduce the number of corner plots, which are always a difficulty in building development. Another advantage of the "close" is that it gives a certain privacy and quietness which is appreciated by many people. "Closes" are of a number of different types. There is the normal type at right angles to the main road, about 200 feet long with a terminal turning point for vehicles, the houses placed on each side with a single house or a pair at the end. The houses may be placed near together in blocks of four or more, to get a real "close" effect, or they may be spread in open formation. In another type the "close" is on a slight curve; another has the shape of a T; another is

PLATE XLVII.

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: HANDSIDE CLOSE

WELWYN GARDEN CITY: LOOKING ON TO HANDSIDE GREEN

(See Lay-out, p. 221)

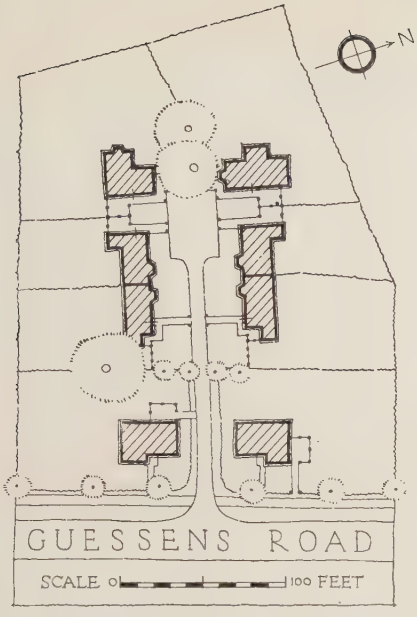
*Louis de Soissons & Arthur W. Kenyon, Architects.*

WELWYN GARDEN CITY: HOMER FIELD, A CLOSE OFF RUSSELLCROFT ROAD

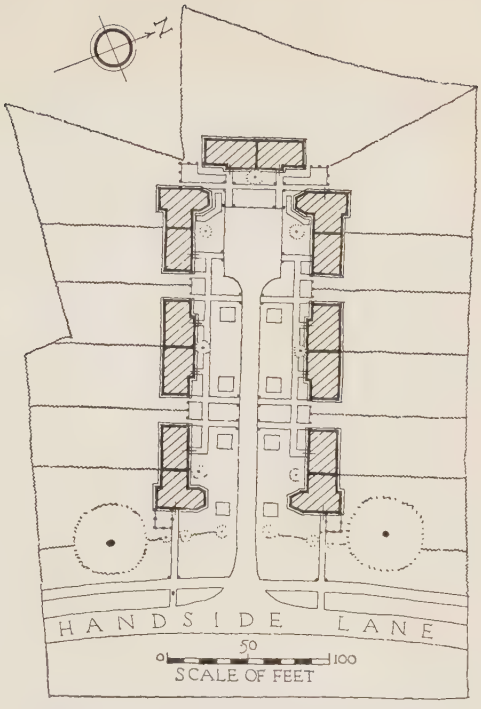
(See p. 212)

*Houses by H. Clapham Lander, F.R.I.B.A., Architect.*

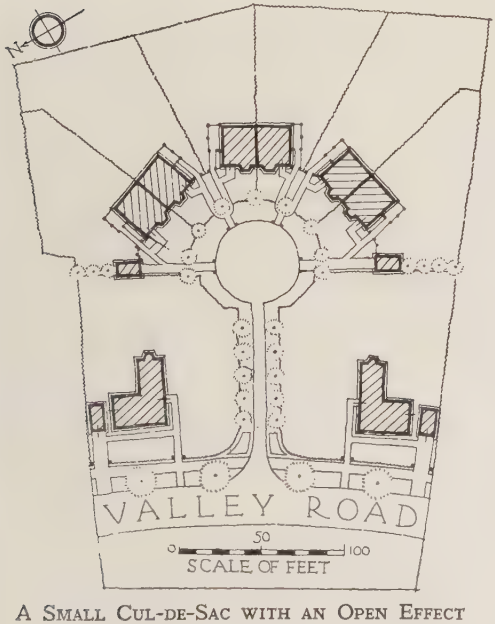
WELWYN GARDEN CITY: MEADOW GREEN, HANDSIDE LANE



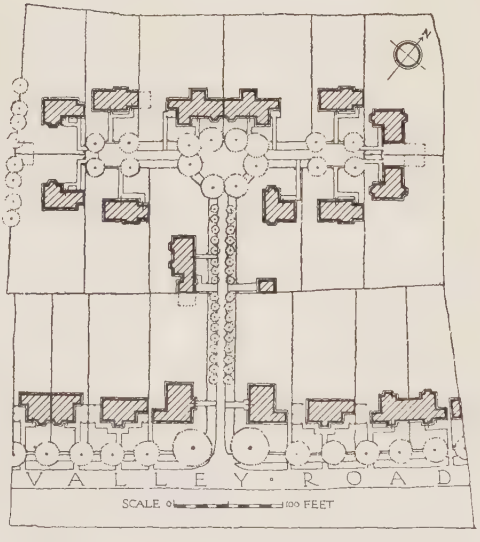

A Small Cul-de-Sac with existing Trees as a Terminal Feature




Closed Quadrangle Treatment of Pairs of Houses, with Open Development in Front




A Small Cul-de-Sac with an Open Effect




A T-Shaped Cul-de-Sac on Land higher than the Road in which a certain Picturesque Effect is aimed at

rectangular. Only in one instance, so far, is a "close" also a thoroughfare for foot traffic in middle-class development; but it has been found desirable to provide footpaths through the "closes" in working-class areas. The "close" has been found very successful.[1] It will not carry too many houses, as it is important that it should not be allowed to take too much traffic; thirty houses is the maximum at Welwyn Garden City, and few have more than twelve. Another type of light road is rectangular, or two sides of a triangle, providing a through way for vehicles around a green.

## §6

The railway main line is the most important traffic-way through the town, and the Garden City Company has kept in mind the desirability of making the town look well to railway travellers. Usually the traveller gets the worst possible impression of towns as he passes through them in the train, and Welwyn Garden City has the opportunity to come before the notice of large numbers of people travelling to and from the north of England and to show what a garden city looks like to people who may never see it in any other way. So it is hoped to avoid the untidiness, dirt and meanness of the back-yard of the town that is so often thrust at the traveller. The ideal thing, no doubt, would be to lay out a strip of land between the railway and the buildings as a garden, and to make the buildings next to the line face it. And even though that would mean a road with only one building frontage, it would in many instances be worth while. At Welwyn Garden City, however, the great width of the railway land and the use to which it will be put by the railway for marshalling yards, workshops, etc., would make any such attempt ineffective. So that the Garden City Company has adopted the plan, to which reference has already been made, of planting a belt of lime trees thirty-five feet wide on both sides of the line. Houses will be too far away to be seen with much distinctness, and the larger commercial buildings and factories will be so designed (at least that is the company's intention) that they will show a pleasing appearance to the railway. The advertising value of so doing is undoubtedly considerable.

[1] Other types of "close" are being developed.

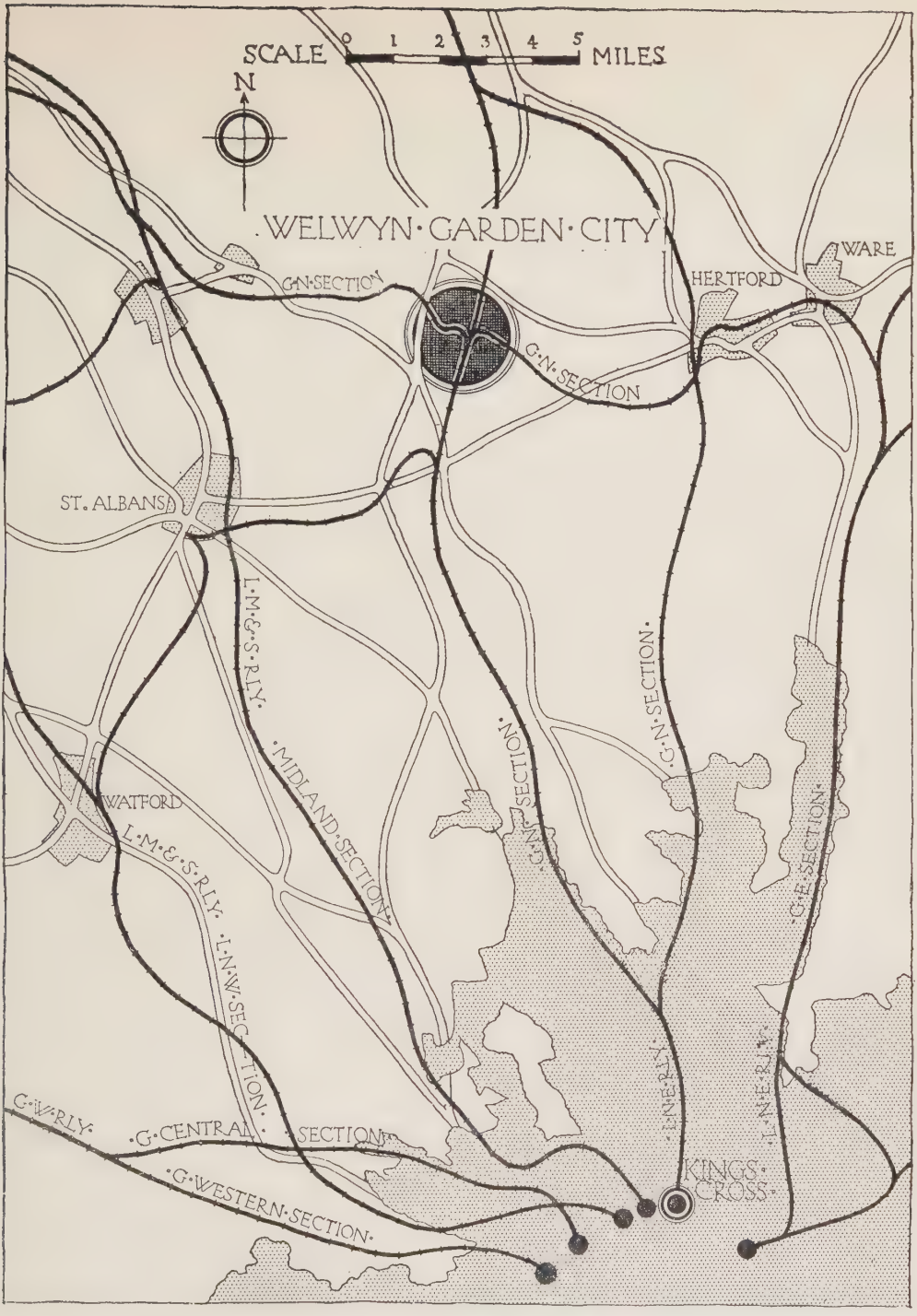
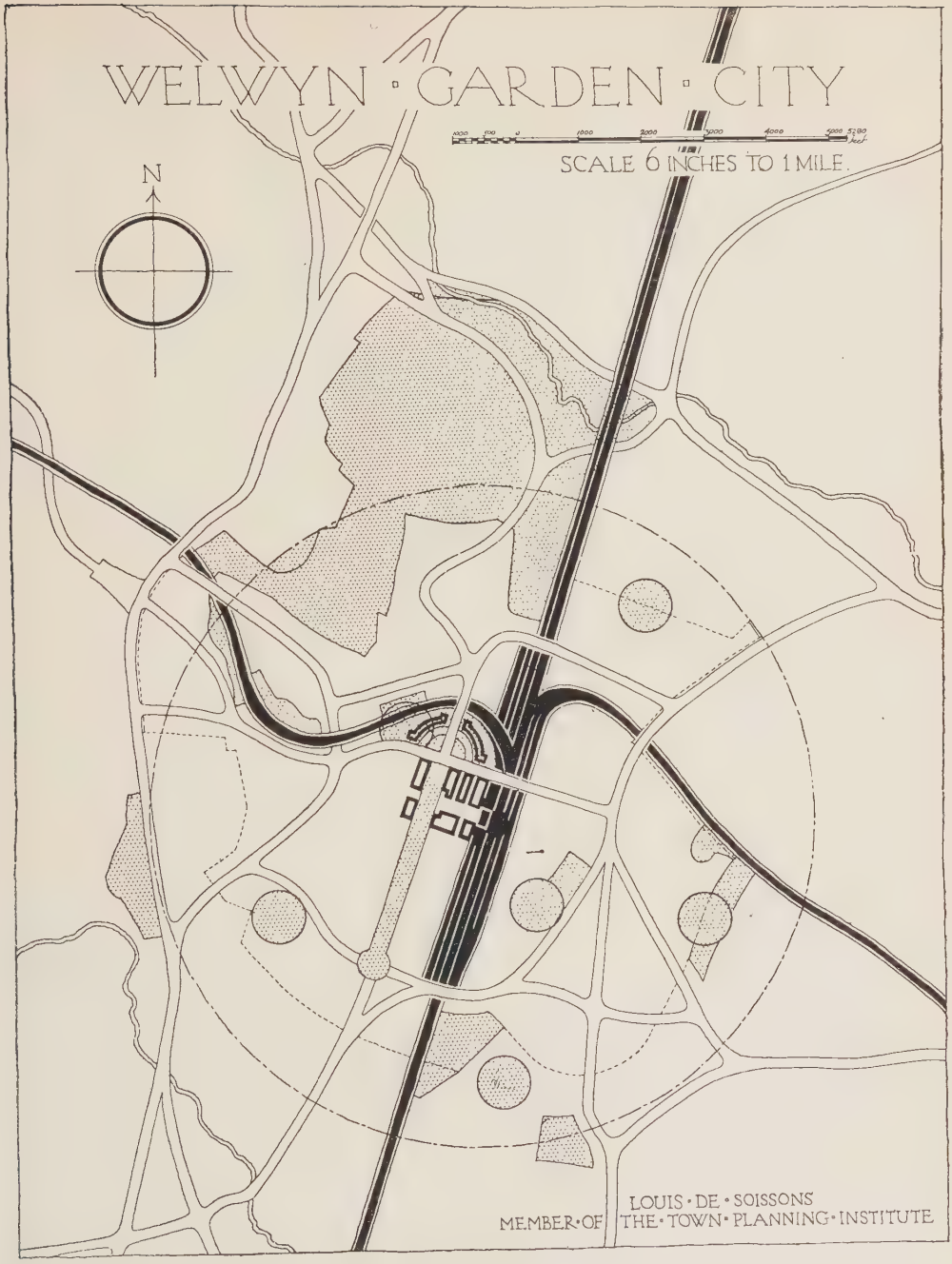



Diagram showing the relation of Welwyn Garden City to London, with Main Highway and Railway Connections

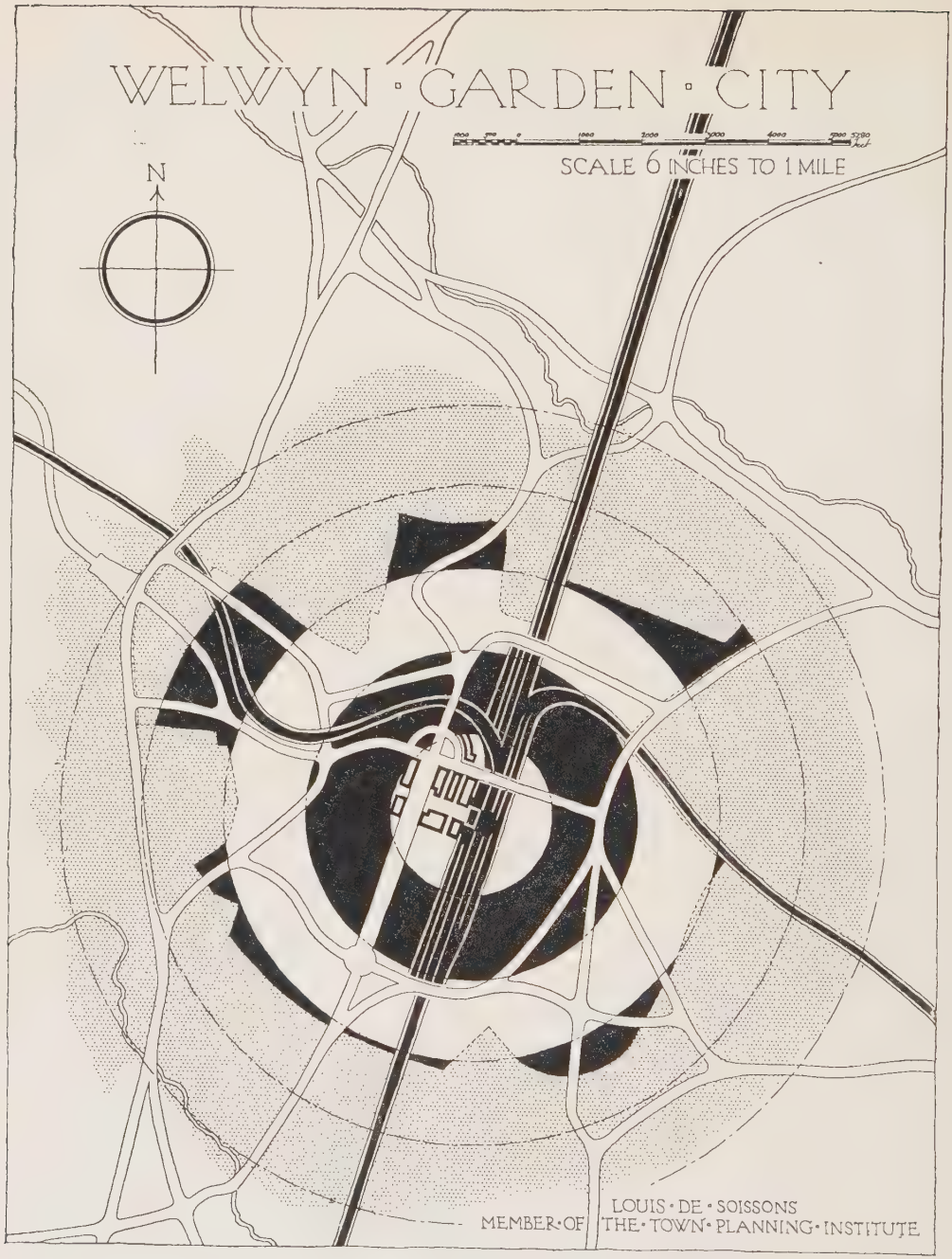
## §7

The provision of open spaces involves the selection of sites for (*a*) parks, (*b*) sports and recreation grounds, and (*c*) children's playgrounds. To treat these in order: (*a*) Apart from their decorative value, parks can best be placed on the outskirts of such a town as a garden city; for in a small town there is no real advantage in bringing them near the centre, as by so doing the benefits of concentration of buildings, which is one of the primary benefits of town-life, are reduced. It is not economy to dilute the centre of a town with open spaces, which means greater distances to traverse to get to trains, shops, halls, theatres, etc., and a loss arising from unremunerative public services, such as roads, sewer mains, etc. But the centre of a town must have some park-like features, if only for amenities' sake and to serve as a promenade; and for that reason Parkway and Howardsgate have been laid out at Welwyn Garden City. These roads from some points of view are an extravagance; but they will provide the town in time to come with a beautiful park running through its centre, without interfering with the compactness of the business or civic areas. Parkway is two hundred feet wide, and the centre will be made into a series of gardens between two double rows of trees. A feature is being made throughout the town generally of the horticultural and arboricultural treatment of roads, groups of trees being placed to break lengths of houses, and masses of flowering shrubs are planted wherever possible. Large areas of the existing woodlands including Digswell Park will be preserved in the north-western area.

(*b*) The provision of sites for sports is another matter, and as it is realised that in most towns the recreational facilities are altogether inadequate, special attention is being given to reserving sufficient sites for the purpose. An area of land near the centre of the town that will ultimately be used for building purposes, but will not be required for many years, has been laid out for tennis, football, cricket, etc., providing a convenient site for the present, and utilising land that would otherwise be difficult to maintain in good condition. But permanent playing-fields should not be in the centre of the town, any more than parks or open spaces, if for no other reason than that playing-fields attract at times considerable traffic which it is not desirable to throw upon the town centre, which is bound to be always the most crowded part of the town. It is therefore intended to retain the best level land




Location of Parks, Playing-Fields, and Playgrounds. The Circles are School Playgrounds




THE TOWN AREA IN QUARTER-MILE ZONES, SHOWING DISTANCES TO OPEN COUNTRY

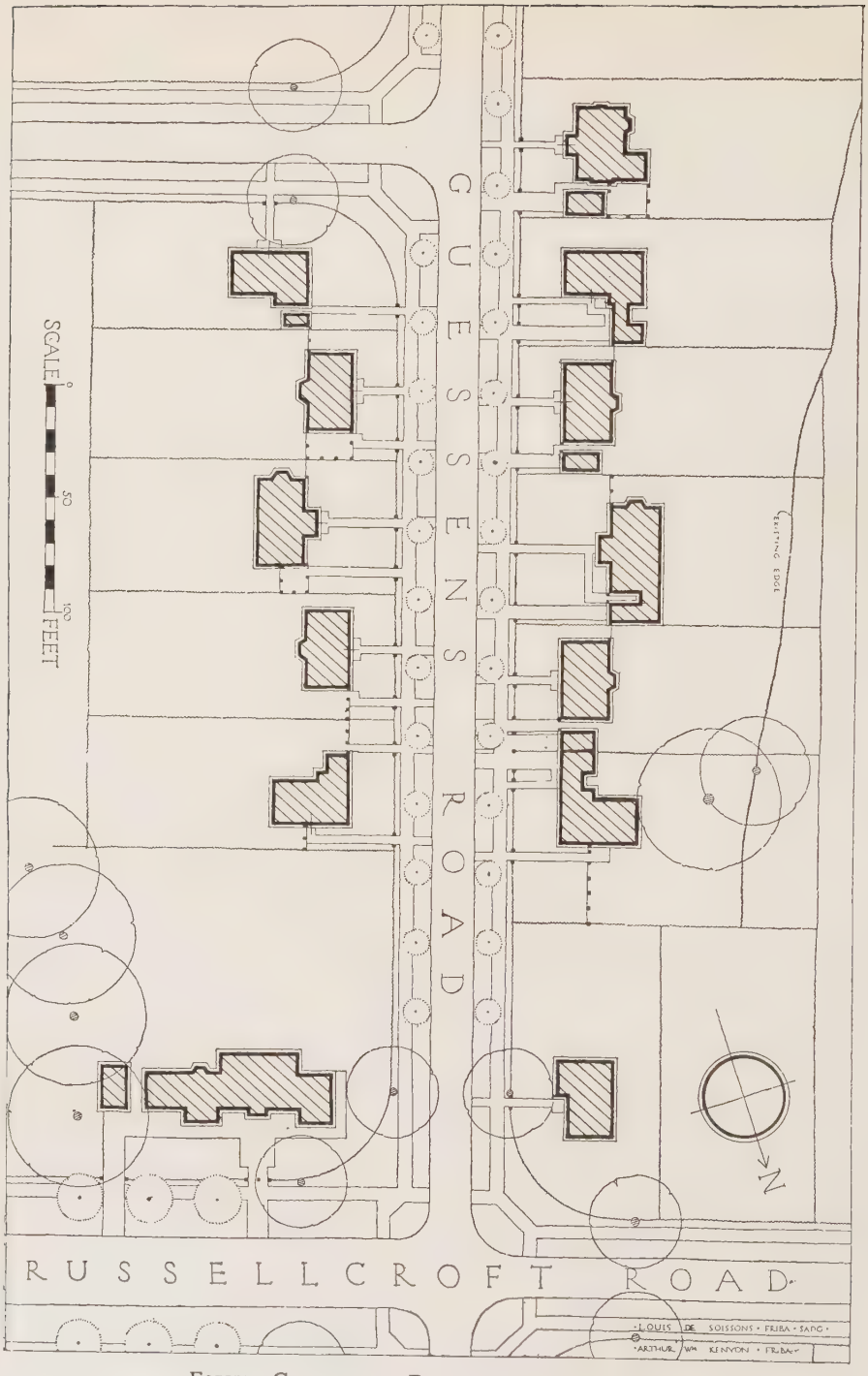
on the outskirts for the purpose. It is interesting to note in this connection that one reason for limiting the size of a town is to make possible the placing of playing-fields and recreation grounds on the periphery, while still leaving them within easy reach of all parts of the town. Small pieces of land behind plots are arranged for semi-private tennis-courts, etc.

(*c*) Children's playgrounds present the difficulty of maintenance and supervision. The gardens of the larger houses are sufficient to allow children to play in them, but the gardens of working-class cottages are usually fully cultivated and cannot be used to any great extent for games. Small areas of from one to two or three acres are therefore being left near the working-class houses for children's playgrounds, and quite small children are permitted to play on the greens in various parts of the town. The school playing-fields are also made available out of school hours.

## §8

The control of the plan is in the hands of the company's architect, and the constant study that the plan receives as development proceeds has proved to be a great advantage. Modifications are made as experience shows them to be necessary, the most important of them up to date being the rearrangement of the industrial area to secure improved siding accommodation, and the replanning of the roads in the north-west area. Each section of the plan is examined carefully in detail in conjunction with the programme of development, and the final lay-out of each section, after being worked out first on a small scale and then, bit by bit, on a large scale, is the result of conferences in which the engineer (responsible for the roads, drainage and water) and the surveyor (responsible for the disposal of the building land) take an active share; the final result being looked at from a financial as well as a simple town-planning point of view. Plans and elevations of all buildings have to be submitted to the architect for approval, and building is subject to the building regulations of the company.[1] A definite attempt is made to control the architectural appearance of the town, and while this is not always easy, it is greatly facilitated by the company undertaking a large part of the building by means of its own subsidiary organisation. High Oaks Road is an example of a road on which plots

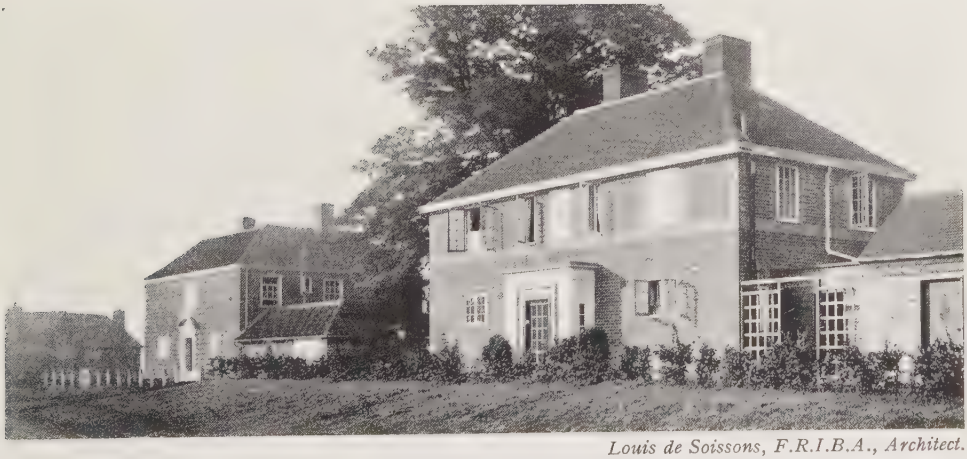
[1] Building and other Regulations in force on the Welwyn Garden City Estate, 1923.




FORMAL GROUPING OF RESIDENTIAL DEVELOPMENT

PLATE XLIX.

WELWYN GARDEN CITY: HIGH OAKS ROAD



*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: BROCKSWOOD LANE

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: HANDSIDE LANE

*Louis de Soissons, F.R.I.B.A., Architect.*

WELWYN GARDEN CITY: ENTRANCE TO A CLOSE, VALLEY ROAD

were taken by individuals, each house being designed separately to suit the requirements of the owner, and the result soon convinced the company and its architect (though he had designed a number of the houses himself) that a satisfactory architectural effect could not be obtained by that means. Therefore every endeavour is now made to carry out

Picturesque Treatment of Residential Development

building in accordance with consistent schemes. Demands for individual building sites are met as fully as possible, but important sites are invariably subject to the architect's direct control. It is interesting to note that (excluding the workmen's housing schemes) 41 per cent. of the houses built to date have been erected by the company's building organisation as part of definite schemes, and only 10 per cent. have been erected as single houses by individuals; the remaining houses have formed parts of the schemes of other builders or societies. What-

ever success has been attained in the development of the town up to the present may be attributed to that cause. Development has been kept as concentrated as possible, and the south-west area being most accessible from the temporary station was the first to be laid out for residential purposes and working-class houses. There was a demand for sites on other parts of the estate, especially in the north-west area, but the company refused to dispose of any land outside the area in process of development. The shape of the estate lent itself to such a policy, and the result is that a large section of the town will be practically completed before development starts elsewhere. This will improve the appearance of the town and is economical in roads and public services. It may be observed in passing that the essential idea is the adoption of a definite architectural scheme of building; its method of execution is a matter of choice, as it could just as well be done by putting the building out to tender or by the employment of a number of individual builders.

## §9

The following is a list of the street trees planted in the town up to date:

THE TREES OF WELWYN GARDEN CITY AND THE STREETS WHERE THEY ARE PLANTED

| | |
|---|---|
| *Acer Campestre* | Young's Rise |
| *Acer Colchicum Rubrum* | Russellcroft Road |
| *Acer Negundo Californicum* | Mannicotts; Palmerston Close |
| *Acer Pseudo-platanus* (*Sycamore*) | Mannicotts |
| *Acer Platanoides Schwedlerii* | Valley Road |
| *Æsculus Carnea* (*Chestnut*) | Guessens Road |
| *Æsculus Hippocastanum* (*Common*) | Russellcroft Road; Brockswood Lane |
| *Ailanthus glandulosa* | Brockswood Lane; Palmerston Close |
| *Betula Alba* (*Silver Birch*) | Valley Road; Brockswood Lane; Bridge Road |
| *Catalpa Bignonioides* | Russellcroft Road |
| *Catalpa Bignonioides Aurea* | Russellcroft Road; Homer Field |
| *Corylus Maxima Atropurpurea* (*Purple Filbert*) | Polayn Garth |
| *Cratægus Coccinea* (*Red Thorn*) | Guessens Road |
| *Fagus Sylvatica Purpurea* (*Purple Beech*) | Guessens Road; Valley Road |
| *Fraxinus Ornus* | Dognell Green |
| *Juglans Nigra* (*Black Walnut*) | Bridge Road |
| *Laburnum Vulgare* | Guessens Road; Little Youngs; Bridge Road; Youngs Rise; Handside Lane; Brockswood Lane |
| *Platanus Acerifolia* | Guessens Road; Bridge Road; Parkway; Brockswood Lane |
| *Populus Canadensis* | Dellcott Close |

| | |
|---|---|
| *Populus Nigra Pyramidalis* | Lanefield Walk; Applecroft Road; Polayn Garth; Homer Field; Church Road; Elm Gardens; Guessens Road; Valley Walk; High Grove; Dognell Green |
| *Prunus Amygdalus* (*Almond*) | Applecroft Road |
| *Prunus Avium* | Mannicotts; Brockswood Lane |
| *Prunus Cerasus* (*Cherry*) | Applecroft Road |
| *Prunus Padus* | Handside Lane |
| *Prunus Pissardii* (*Purple Plum*) | Brockswood Lane; Bridge Road; Quadrangle; Handside Lane; Guessens Road; Lanefield Walk |
| *Pyrus Aria* (*Whitebeam*) | Town Square; Valley Road; Dognell Green; Guessens Road |
| *Pyrus Aucuparia* (*Mountain Ash*) | Homer Field; Handside Lane; Mannicotts; Russellcroft Road |
| *Pyrus Malus Floribunda* | Applecroft Road |
| *Pyrus Malus Niedwetzkyana* | High Oaks Road |
| *Pyrus Malus Purpurea* | Bridge Road |
| *Quercus Rubra* (*Red Oak*) | High Oaks Road |
| *Robinia Hispida Rosea* | Guessens Road; Bridge Road |
| *Robinia Pseudacacia* | Valley Road |
| *Salix Alba* (*White Willow*) | Mannicotts |
| *Salix Rosmarinifolia* | Handside Lane |
| *Salix Vitellina* (*Golden Willow*) | Mannicotts |
| *Syringa Persica* | Handside Lane |
| *Tilia Argentea* | Youngs Rise |
| *Tilia Vulgaris Europa* (*Lime*) | Little Youngs; Parkway |
| *Ulmus Glabra Cornubiensis* (*Cornish Elm*) | Elm Gardens; Guessens Road |

§ 10

The road names chosen for the town are as far as possible local names of fields, buildings or persons.[1] The system of street numbering adopted is to number the buildings in main radial roads from the centre of the town outwards, and secondary roads from their junction with main roads. When a cross-road connects two main roads it is numbered from the road which is likely to be most used by the inhabitants of the cross-road for access to the centre. Odd numbers are on the left of the road and even numbers on the right from the point where the numbering starts. Short *culs-de-sac* are numbered consecutively from left to right.

[1] At Letchworth the roads are named on a similar principle, and the method of street numbering is to start from the north end of roads running north and south and from the west end of roads running east and west, odd numbers being on one side of the road and even numbers on the other.

# CHAPTER III

## THE SHOPS [1]

Increases in population of a city are invariably reflected in business property values. . . . Nearly all real estate in a growing city has a consistent ratio of growth from year to year by reason of increasing population. . . . More fortunes, both large and small, have been made in centrally located land than in all other types of realty investment combined.—S. L. McMichael and R. F. Bingham, *City Growth and Values.*

### § 1

THE distribution of goods is one of the main functions of society, and to be markets has always been one of the primary objects of towns. And as goods are distributed through shops, the provision of shopping facilities is part of the business of all who attempt to build towns, and the choosing of areas for shops and the planning of sites for the purpose is one of the duties of town-planners. Hitherto shopping areas have grown up in towns in a more or less haphazard manner, subject to the same lack of order and design as the growth of the towns themselves. There is in all old towns some spot where a market is held and where men congregate for business; from such spots shops have straggled along main streets, following the course of traffic.

One may see this in every country town and in many parts of London. But in a garden city, which is a deliberately created entity, the shopping areas can be chosen in advance and deliberately placed where they are likely to be of the greatest service to the community. That the shops should serve the town well in their site, the accommodation provided by their buildings, their service and in their working as a whole, is a major element in town economy; for a town suffers if its shops are poor, inefficient, badly placed, or unsatisfactory for any other reason.

### § 2

The shopping area of Welwyn Garden City is placed near the permanent railway station on both sides of the boulevard forming the

[1] The greater part of this chapter is based upon the writer's paper, *The Place of Welwyn Stores in the Welwyn Garden City*. Welwyn Garden City Bookshop, 1923.

PLATE LI.

Welwyn Garden City: A Section of the Stores (1924)

Welwyn Garden City: A Section of the Stores (1924)

WELWYN GARDEN CITY: A SECTION OF THE STORES (1924)

WELWYN GARDEN CITY: THE DAIRY (1924)

main approach to the station, at right angles to the Parkway, and with a frontage on the east side of Parkway for a total distance of 300 yards. The area is bounded on the north by Bridge Road and adjoins the bridge leading to the industrial area and the east of the town, and two roads run through it parallel with Parkway. The area is just under twenty acres; it is intended to place there shops, warehouses, offices, business premises of all kinds, garages, post office, police-station, etc. There will be small subsidiary shopping centres in other parts of the town, but the attempt will be made to concentrate shopping in the centre, the shops being built together with no other buildings to break their continuity. Apart from traffic to the passenger station there will be no heavy road traffic in the area except to the shops themselves, and an endeavour will be made to keep all such traffic out of the main streets, special warehouse and unloading sections being provided for.

Sites will not be let for indiscriminate shop or commercial building, as all buildings will be required to conform to a consistent scheme. The shops will not have domestic quarters over them. The upper floors of the buildings will be designed for use as showrooms or warehouses or as offices. It is possible that some may be used as residential flats; but the ordinary small shop combined with a shopkeeper's residence will not be built. The intention is to make a well-planned and laid-out shopping centre to meet the convenience of the public, and to provide first-rate accommodation for the storage, handling and display of goods, the site being within walking distance of every part of the town and easily accessible from the surrounding country, with the railway station adjoining it. The development of the area has not yet been started except for one corner where a site has been let for a garage, and until the new railway station, on which it largely depends, is constructed the roads will not be made nor will building be put in hand. This, however, is expected to be a matter of a short time only. For the present an area on the existing Bridge Road just off the permanent shopping area is being used. This site is occupied by a central stores; other sites have been let for the restaurant and tea-gardens, and for temporary offices and bank premises. The methods that are being adopted by the Welwyn Garden City Company for the development of the shopping facilities of the town are unusual, and deserve special attention.

§3

Instead of letting separate sites for shops to traders, the Garden City Company has handed over to an organisation formed for the purpose, known as Welwyn Stores Limited, the duty of providing the shopping facilities for the town. Welwyn Stores Limited was formed in May 1921, just a year after the town was started, and began business in the following October. It is a society registered under the Industrial and Provident Societies Act, which is an Act passed with a view to giving groups of people (mainly working people) the benefits of incorporation and limited liability, and no one may hold more than £200 in share capital in such a society. The Garden City Company has given Welwyn Stores Limited the right to all shopping sites on the estate for a period of ten years, and in consideration of that right retains a controlling interest in the society; so that if the society should not be able to provide the shopping facilities required, or if the scheme should prove unsatisfactory in any other respect, the company may be in a position to remedy it. The period of ten years was fixed to allow the scheme a fair trial and to give an opportunity for a review of the whole position at a definite date; if at the end of it the arrangement has worked well, the intention is to extend it; if, on the other hand, the experiment is not fully successful, it will be possible to modify it in the future.

Welwyn Stores Limited has raised its own capital, having issued, up to date, £14,000 in shares and £14,000 in loan stock, a total of £28,000. Practically the whole of this capital has been subscribed by persons non-resident on the estate—shareholders in the Garden City Company, those interested in the shopping scheme as an experiment, and those who consider the stores to be a good investment. Every encouragement is given to the inhabitants to become shareholders, and no doubt as time goes on a large proportion of the capital will be held in the town. The interest paid on the loan stock is 8 per cent. on the first issue and 6 per cent. on subsequent issues, which is payable similarly to debenture interest—that is, irrespective of profits. The dividend on the shares is limited to 7 per cent., payable out of profits. The balance of the profits, after payment of the fixed interest and dividend, is to be paid to the Garden City Company for the general benefit of the town.

## §4

The double object with which the Garden City Company established Welwyn Stores was to obtain the maximum efficiency in the distribution of commodities in the town, and to secure for the community the land value created by the shops. These two objects are really interdependent; for the maximum land value depends upon maximum business, and that depends upon maximum shopping efficiency.

Land value means the maximum price, or capitalised value of rent, that can be got for a particular piece of land, having regard to its utility. It is subject to the law of supply and demand. If there is much suitable land in the market and a small demand, the value will be low; if there is a little land and a small demand, the value will still be low; if there is little utilisable land and a great demand, the value will be high, will be limited, indeed, only by the financial advantage that can be gained from its use. In Welwyn Garden City, where the whole of the land is in one ownership, the land available for shops can be as much or as little as the owner pleases. Its area is limited only by the ability or willingness of the owner to put the land into the market, and by the quantity of suitable land in a convenient position for shopping purposes. Very unlevel land, or land remote from a road or railway, or land in a situation to which the public do not care to go or can only go with difficulty, has practically no value for shops. At Welwyn Garden City the shopping area has good road and rail access, and is conveniently placed in relation to the present and future residential areas of the town. It is also in a situation that may possibly become a natural shopping centre for a much wider area than the town itself. The value of the land in this position depends upon what people will give for it for the erection of shops. Obviously that depends upon possible shopping profits, and these in their turn upon population. When the town started in 1920 there was very little business to be done, therefore the land value was small; moreover, the prospects of future business were speculative, for the rate of increase of population was uncertain. Anyone taking land for a shop at that date would not only have had to risk what he paid for the land (or the liability he committed himself to in the form of rent, which is the same thing), but the capital that he spent in buildings and stock. Consequently, anyone taking a shop site in the early days would have paid comparatively little for it, and though he might have been induced to take a lease on an ascending scale of ground-rent, the

anticipated future value must necessarily have been very limited, because the rate of growth of the population could not be guaranteed.

At the start of such a town as Welwyn Garden City, shop sites are most likely to be taken by people of comparatively small means, neither able nor willing to pay a high land value, or to spend much upon their premises. Established firms, or people with capital, or the owners of multiple stores, have plenty of use for their capital, and are not inclined to go to a new town until there is a population large enough to make it worth their while; for trade follows population, it does not precede and anticipate it. Even if well-capitalised firms were induced to consider the erection of shops they would be disposed to make terms with the landowners that would tend to diminish their risks, which would mean the payment of something a good deal less than the future value of the sites. To overcome this difficulty it has been sometimes suggested that sites might be let on a revisable rent basis, allowing for any future increases in value to be settled at intervals of, say, ten years. But not only would there be great difficulty at the end of each of those periods in arriving at what the increase actually was, but no business man would erect buildings under a lease for land which left the exact amount of his future liability uncertain.[1] Yet the increase in value of land for shops in a town such as Welwyn Garden City may undoubtedly become very great. No one can say how great; for it depends upon increase of population and the rate of that increase.

In every town, land for shops is the most valuable of all land. It is more valuable than land for any size of house or even for industrial purposes. The only limit of value that can be put upon it is the profit that can be derived from its use. That is to say, provided there are no alternative sites just as good, it is practically impossible to separate land value from the profits derived from trading upon that land. The profits of such trading depend upon the special adaptability of the site (which means that no two sites are exactly alike, which is a fact), the number and character of the population, and the energy, enterprise, and efficiency of the trader. Therefore the value of shop sites cannot easily, if at all, be analysed into site value pure and simple (that is to say, the financial advantage of the site itself), and trading profits pure and simple (that is to say, the financial result of skill in merchandising). Theoretically, the value of the site is the maximum that the trader can pay; and to discover what that figure is it would

[1] This question of leases at revisable ground-rents is discussed later on (Part III., Chapter VII., § 8).

be necessary gradually to raise the price (or rent) until it stopped just short of the amount beyond which it would not pay the trader to carry on his business. But to do that is impracticable, except in a very approximate way.[1] Therefore the only way to get the full land value out of shop sites is to take the full profits that arise out of the use of them. That, in actual fact, is what is being attempted at Welwyn Garden City.

## §5

The experience of Letchworth, the first garden city, may be taken as typical of the ordinary method of letting shop sites. Between 1905 and 1914 about eighty leases were granted for rather more than that number of shops, etc., at fixed ground-rents which averaged a little over £3 per lease per annum, or at the rate of nearly £26 per acre per annum, in 1905, to just under £9 per lease per annum, or at the rate of nearly £90 per acre per annum, in 1914. The rents for new sites were increased gradually over the period, sites being let to anyone willing to erect premises. In the tenth year of the life of the town the total ground-rents arising from shop and commercial sites did not exceed £530 per annum. New ground-rents are, of course, on a much higher level. The values of the earlier leases have certainly greatly increased; that increased value may be regarded as a reward for the enterprise of the early shopkeepers, which no one need grudge to them; but there can be no question that it represents a considerable loss of value to the Garden City Company which cannot be regained within the period for which the leases are granted (in this case 99 years). The only way in which some part of it might be recovered would be to retain a large shopping area and to let sites for shops as long as people were prepared to take them, even though it might mean building too many shops; for the interest of the company in the early shopping leases is so small that it would be practically impossible to over-build to such an extent as to damage that interest. This means, in effect, that Letchworth would have a large shopping area, the majority of the sites being of comparatively low individual value (though the aggregate might be great), the shops being comparatively small and of low value. This is practically the same position as that which exists in ordinary towns. There is, however, this factor at Letchworth, of no immediate

[1] See Hurd, *Principles of City Land Values* (4th ed., New York, 1924); especially Chapter IX., "Rentals and Capitalisation Rates."

importance, but likely to play a large part in the future of the town, that all shops are held on 99-year leases, which means that in the course of time the ground landlords, that is to say the Garden City Company—which will be in effect the town—will enjoy the reversion of the leases and secure whatever increased value can be obtained when that takes place.

§6

At Welwyn Garden City the entire land value is conserved by reason of the policy adopted. In the first place, the Welwyn Stores is able to pay a high ground-rent; and in the second place, the balance of its profits goes to the Welwyn Garden City Company and through the company to the town. This means that a small area is used—the area occupied by the stores being under one acre, compared with about four acres of shop sites let at Letchworth at the end of the first three years. It is an economy, of course, to use a minimum of land and to get the maximum value from it. And looking at the matter from the narrowest financial point of view, if the stores can pay a ground-rent for its premises somewhere near the total ground-rents that might be expected from separate shop sites under the ordinary system, it will more than justify itself. The total ground-rent created by the stores alone is £281, to which must be added rents created by the restaurant, bank premises, office buildings, garage, etc., a further sum of £337. So far, then, it may be regarded as certain that the actual land values created by the Welwyn system compare favourably with the maximum values that might be expected under the ordinary system; but of course the matter cannot really be judged from that narrow point of view. The important feature is that the system not merely creates the maximum values on the areas actually disposed of, it conserves future values. And here it becomes necessary to discuss the future development of the system; but before doing so we must consider the other object with which it has been established, for we have reached the point where the two objects merge into one.

§7

The stores was formed to secure the maximum efficiency in the distribution of household and other supplies. The alternative to the centralisation of shopping in one organisation is to have individual shops under separate ownership and control. The butcher, the baker, the grocer, the draper, the hardware dealer and the small sundries dealer would each be established in his own premises, and perhaps in some trades there would be more than one shop. The shops would be small, because the town is still small, and it would not be prudent to sink too large a capital in premises; the stocks would be small, and the choice offered to the consumer would be restricted. One has only to look at what happens in new districts around London and all the great towns to see what we should have had at Welwyn. The first shops would have been little better than wooden sheds; or if permanent buildings had been put up they would have been narrow-fronted and shallow, with living-rooms over them. The shopkeeper would not have been likely to look too far ahead; he would perhaps have been jealous of the opening of new shops in his own line of business, and we might have seen him exerting himself to get the number of traders restricted; and his prices—well, human nature being what it is, and business being business, they would no doubt have been the highest that he would have dared to charge. Incidentally, we may consider what has happened recently in connection with the large municipal housing schemes. Hardly any of these schemes have been carried out with attention to the shopping needs of the community. Shops have been allowed to spring up anyhow around the estates, and the unfortunate inhabitants have been in the hands of their proprietors, with the consequence that prices are often on the highest scale, and quality and service of the poorest. There is no need to elaborate these facts, for they can be seen by anyone who cares to look for them. And when we remember that every one of these housing schemes represents a loss to the ratepayers as well as a much greater loss to the State, is it not folly that the only real values that have been created in and around them—the values created by shops—should have been, in almost every instance, entirely lost to the community?

Let us look again at Letchworth, where so much of the greatest significance can be learned on every aspect of town development, and enquire if the shopping system there was really satisfactory. The first

shop buildings, with but few exceptions, were permanent, but they were the usual type of small shop, difficult to extend and inconvenient to work. That the shops were better than in most new places is probably true; but that they were satisfactory is certainly far from being true. In spite of the competition of Baldock, two miles away on one side, and Hitchin, two and a half miles away on the other, the shops, the stocks, and the service were anything but good in the first eleven years; to-day, after twenty years, there is undoubtedly a marked difference. Indeed, the shops at Letchworth are now, in the main, one of the town's best features; but the inferior shopping service was for many years put forward as one of the hindrances to the more rapid development of the town. The high prices charged in the shops were said to keep manufacturers from moving their factories and workpeople there, and the poor stocks and display were said to be bad for residential development.

§ 8

No one has ever computed the waste of money and effort that is represented by the ordinary method of distribution of goods, all of which has to be paid for directly or indirectly by the consumer. Do we realise how many shops there are in the ordinary town? The following are figures for a few towns in the same county as Welwyn Garden City as given by the census of 1921:

| Town and Population | Shops not containing Dwellings | Shops containing Dwellings | Total | Average Number of Inhabitants per Shop |
|---|---|---|---|---|
| Baldock (2,477) | 11 | 45 | 56 | 44 |
| St. Albans (25,593) | 135 | 370 | 505 | 50 |
| Watford (45,922) | 144 | 697 | 841 | 54 |
| Barnet (11,772) | 47 | 172 | 219 | 54 |
| Hertford (10,702) | 66 | 184 | 250 | 42 |
| Hitchin (13,525) | 71 | 214 | 285 | 47 |
| Letchworth (10,302) | 25 | 57 | 82 | 125 |

The relatively small number of shops at Letchworth is interesting. Shops take a long time to establish themselves in a new place. The number has, however, greatly increased since 1921. At the end of 1924 there were 152 shops, the population being estimated at 13,500, one shop to eighty-eight persons. In the administrative county of London the number is one shop for every fifty-seven persons. The average for the urban districts of the country as a whole in 1911 was one shop for every fifty-five persons.[1]

[1] 1911 Census Report, Vol. VI., p. xiii.

Does this great mass of shops, added to, as it is almost everywhere, by numbers of ordinary dwelling-houses in which goods are exposed for sale in one of the front rooms (a common practice in the poorer districts of most towns), as well as by the activities of street-traders and hawkers, really lead to efficiency or economy? Does it pay the community as consumers, or in any other way? Surely it does not. Where is the economy in every forty or fifty persons (on the average) having to support a shop between them with its rent, rates, wages, costs of delivery, interest on premiums, and so forth? The Departmental Committee on Distribution and Prices of Agricultural Products, of which Lord Linlithgow was chairman, made in the course of its various reports a series of comments upon the usual methods of distribution of articles of food, which the committee considered to be unsatisfactory in many respects. "The retailing of food from a large number of establishments is," said the committee, "in any event an extravagant method of distribution." [1] And the committee pointed out that the excessive costs of small establishments "render them powerless to provide the real and effective competition capable of reducing margins." [2] The success of the great department stores on the one hand, and the multiple shops on the other, is evidence of what can be done by proper organisation and the establishment of a reasonable relation between turnover and overhead charges to reduce the general level of prices and increase the efficiency of shopping and the profits derived from it.

## §9

The Welwyn Stores is a combination of retail businesses in a single organisation, each business gaining something from its association with the others. Establishment charges, costs of delivery, costs of publicity, and the general expenses common to all businesses are pooled for the entire undertaking, with the consequence that economies are effected and better service can be given than is possible under the system of small shops. The departments are: meat, groceries, provisions, cooked meats, etc., fish and poultry, vegetables, fruit and flowers, confectionery, bakery, dairy, drugs, dispensing, tobacco, stationery, books and newspapers, music, gramophones, hardware, china and glass, cycles, toys,

[1] "Final Report of the Departmental Committee on Distribution and Prices of Agricultural Produce" (H.M. Stationery Office, 1903), p. 25.

[2] *Ibid.* p. 24.

outfitting, drapery, millinery, costumes, children's clothes, haberdashery and boots. Practically everything in daily use can be obtained at or through the stores, and as the growth of the population warrants it the number of departments is increased. The business is on a cash basis, but weekly accounts are allowed. Goods are delivered throughout the estate. The existing premises have an area of 12,000 superficial feet, and in addition there is a public hall.

The scale of the undertaking depends upon the size of the population. When the business was started in 1921 the population (including the original inhabitants) was under 900; the present total population is approaching 3000. It is obvious that with so small a population there must be a great deal that the stores cannot do. The extent of the service that it can give is largely governed by the stocks it can carry, its facilities for buying, its premises and equipment, and the staff it is able to employ.

The undertaking is conducted on a commercial basis—that is to say, it is run to pay. The lowest market prices are charged consistent with a reasonable average return upon the business done. It is not claimed that the stores has always the lowest price for every article; but it is confidently stated that, quality for quality, the general level of prices is that of the London stores (or under). The business is mainly that of a good middle-class trade with an increasing proportion of working-class trade, and one of the problems at present is to meet these two demands; but that problem will be simplified as the town grows and the increase of trade makes it possible to extend the range of stocks that is carried. The function of the stores as the centre for the distribution of goods and services for the town is always kept in mind, and the obligation to give the maximum possible service, even beyond that of normal business, is respected. This can be done, and it is sound even from a business point of view to do it, because the concern is on a permanent basis and longer views can be taken than would be prudent in a business of a different character.

A coal department is run in connection with the stores, and a builders' merchant's business is also conducted.

§ 10

It has been suggested that the centralisation of shopping business in one organisation, and the absence of the normal competition among shopkeepers, may lead to a decline in efficiency. The fact is, however,

that centralisation provides a focus for the expression of criticism, which produces an immediate effect. The whole undertaking is placed under the strong light of public opinion; any possible dissatisfaction with the service or with prices is concentrated upon it, and the organisation is bound to be to a very high degree sensitive to the views of the public. Nothing but the most unremitting attention to efficiency can maintain the smooth working of the system. The actual competition that exists is much greater than in the ordinary town where, apart from the multiple shops, there is seldom any constant and effective competition among the traders; for at Welwyn Garden City even the competition of outside traders who come into the town for business is directed against the stores, and has to be of a certain strength to result in any business whatever for the outside trader.[1] As the town develops, that competition is likely to increase, and will be felt in the most unmistakable way at the stores if its prices, or quality, or service become in the least degree unsatisfactory. The customers themselves do not hesitate to draw attention to deficiencies; but even if they were quite silent the effect of their dissatisfaction would be immediately apparent in the returns of the business. It would not, as a matter of fact, pay the stores to take advantage of its theoretical position, and charge the most it could get for its goods.[2] The organisation needs the goodwill of the inhabitants for its successful and easy working, and it is good policy for the stores to subordinate immediate advantages to the future of the undertaking. In practice, therefore, the inhabitants are getting through the stores a shopping service far in advance of what the town could afford under the normal system.

One interesting feature of the system is that the weekly local newspaper, which is run in association with it, is made available as an advertising medium for tradesmen in the surrounding towns, so that the stores actually, and as part of its policy, gives full publicity to the competitive prices and to the service that can be obtained in the district.

## § II

The Welwyn Stores, as a distributive organisation, will prove an important factor in the development of the permanent shopping area of the town. The premises that will be erected for it are intended to

[1] See the report of an address by the present writer, and the discussion thereon, in the *Welwyn Garden City News*, 27th Feb. and 6th Mar., 1925.

[2] On this subject see Marshall's *Industry and Trade*, 1920, Book III.

be of considerable extent, designed not merely as a shop but as a social centre. It is proposed to include, for instance, a *crèche* to enable mothers to bring their children with them when shopping, and to leave them in charge of a competent nurse. There will be all the usual amenities of the modern department store, and at the same time some of the atmosphere of a club. The intention is to extend the business to cover practically every shopping activity.

It is intended, also, in addition to the businesses under the co-ordinated management of the stores, to provide premises for such independent businesses as hairdressing, millinery, dressmaking, tailoring, photography, and indeed for most things in which there is a predominant element of personal service. This will be done at an early date, and will probably form part of the first development in the shopping area. Later on, when the population warrants it, the idea is to extend the individual shops to the grocery and other trades. The object will be to achieve the highest efficiency in shopping service, and to give the town the widest range of choice that is practicable. It is undoubtedly true that a variety of goods and service is an inducement to larger total business, which, in turn, has an influence upon site values.

§ 12

Among the particular advantages of the system of shopping at Welwyn Garden City is that the makeshifts that have to be adopted in the early development of shopping facilities in a town need not become permanent. For example, the first shop premises at Welwyn Garden City are on the outskirts of the shopping area, because when the premises were built there was no access to the central part of the area; it would not have paid to provide that access, and even if it had been provided the position would not have been convenient. The first houses were built on roads that had access to the temporary railway station, which is at some little distance and on a different line of road from the site of the permanent station. The temporary stores is where the maximum traffic is at present; when the permanent station is built and roads are made to it the centre of gravity of the town will change. It will then be advantageous to move the shops to the new centre, which the stores will be able to do with ease when the time comes, finding some other use for its existing buildings. Thus the town will

not be saddled permanently with a certain number of shops in the wrong position.

And this suggests that Welwyn Garden City will not be under the influence of the vested interests of individual shopkeepers, which is, and always has been, one of the very greatest and most deeply rooted of all influences in towns throughout the world. The existence of a variety of vested interests, trading, commercial, professional and so forth, that grow up in towns is something that makes all changes a matter of extreme difficulty, because certain sections of those interests are always deeply committed to things as they are, and this has everywhere proved to be one of the most effective obstacles to town-planning improvements in the old towns. The vested interests of shopkeepers represent an enormous amount in capital value, the effect of which neither town-planners nor anyone else can ignore. At Welwyn Garden City these interests will not be in a large number of hands, but will be centralised and under a considerable measure of public control, and a sectional advantage will not overpower greater general advantages.

## § 13

The full advantage that the system of shops at Welwyn Garden City will have for the town remains to be seen. Already it is obvious that the shopping service is notably superior in its variety and efficiency to the shops that elsewhere exist in a town of the same size. The economic advantage to the town in avoiding altogether the high prices usual in new districts is considerable, and as the scheme develops it is possible that the town will realise many further benefits. Already it has had a few of some importance. (1) A unified milk supply has been created, under which the duplication and waste of the ordinary method of milk distribution have been avoided and the supply of milk is both clean and cheap. (2) Bread has been sold at the lowest price in the district, and the best material only is used in its making; a loaf of all-British flour is sold below the price of ordinary bread. (3) The stores has made it possible for good postal facilities to be provided for the town, which could not have been undertaken apart from the use of the stores organisation and the premises the stores has built. (4) A public hall has been provided for the use of the town for dances, concerts, plays, meetings, etc. (5) A weekly newspaper, *The Welwyn Garden City News*, has been run since September 1921 as a means of communication

among the inhabitants. (6) An information office has been established to assist new residents when they first come to the town, and to answer enquiries of every kind made by the inhabitants.

That large improvements can be effected in the usual methods of retail distribution there can be no doubt. The Linlithgow Report, to which reference has already been made, says that, "taken as a whole, distributive costs are a far heavier burden than society will permanently consent to bear." [1] The committee's criticism of the system of retail distribution that exists throughout the country will have to be met. Among other things the committee says: "Distributors as a whole must be prepared . . . to increase the effectiveness of their trades and to work steadily forward in the direction of devising less expensive methods and of adapting their trading policies to the fundamental requirements of economical distribution." To effect such an economy is indeed what is being aimed at in Welwyn Garden City. It is interesting to note that the committee points out very clearly that a large part of the cost of distribution is due to consumers themselves, who demand services from distributors, such as canvassing for orders, delivery of goods, credit, etc., which involve considerable labour and are highly expensive. So long as people want these personal services prices are bound to be high enough to cover them, which increases the cost of living. At Welwyn Garden City these services have to be provided and paid for; but with a view to reducing prices the stores organisation will include the setting up of a market in which goods will be sold at the lowest possible prices for cash, with the minimum of charges for handling. Goods will have to be fetched away by consumers themselves and no delivery will be undertaken. This will help those people who do not want the elaborate service of the main establishment to get their goods at a lower price by taking a little extra trouble themselves. Thus the stores as a distributing agency is expected to meet the requirements of every section of the population in the most efficient and economical way.

[1] "Final Report on Distribution and Prices of Agricultural Produce," p. 11.

# CHAPTER IV

## INDUSTRIES

There is therefore no better use for public and private money than in . . . helping those of the working classes who are willing to leave the large towns to do so, and to take their industries with them; while money spent on reducing the cost of living in large towns by building workmen's houses at a loss or in other ways is likely to do almost as much harm as good, and sometimes even more.—ALFRED MARSHALL, *The Principles of Economics.*

### § 1

THE town is laid out to provide for industry. The site is naturally suited for the purpose, being level and with good railway and road access. Industrial development is still in its early stages; but several important factories are now established:

Welwyn Transport, Limited, gravel washing and crushing.
Archibald D. Dawnay and Sons, Limited, constructional engineers.
The Shredded Wheat Company, Limited.
New Town Trust, Limited, laundry.
Welwyn Builders, Limited, joinery works.
Mastic Roofing and Paving Company, roofing and paving materials.

A site of ten acres has also been taken by Messrs. R. S. Murray and Co., Ltd., for the purpose of removing their confectionery works from London.

The factory area has received great attention with a view to providing the best conditions for industrial plants and at the same time preserving the amenities of the town. The result aimed at in the lay-out of the area is to bring it to a point of high development for industrial purposes, so as to provide manufacturers with what they cannot obtain elsewhere. Railway sidings are taken off the Hertford branch line and off the main line through the railway company's goods yard. A system of common sidings is being developed, so as to enable as large an area and as many factories as possible to be served by a single junction with the railway company's line. It is not intended to bring sidings across main roads, but they may cross subsidiary roads where these are not

used for through road traffic. The development of the area will be controlled so that factories not requiring siding accommodation will be placed away from the railway. The roads throughout the factory area

FACTORY AREA
AREA DENOTED BY
1 MESSRS R S MURRAY & CO
2 MESSRS A DAWNAY & SONS
3 THE SHREDDED WHEAT CO
4 NEW TOWN TRUST LAUNDRY
5 NEW TOWN TRUST SHIRT & TIE FACTORY
6 E PALMER
7 F BARNES & SON
8 GARDEN CITY ELECTRIC POWER STN
9 WELWYN & HATFIELD GAS CO
LOUIS DE SOISSONS · F RIBA · SADG

FACTORY AREA
Showing road access, railway sidings, and relation to town-centre.

are designed for heavy motor traffic, and the arterial road to connect with the Great North Road will run the shortest way through the town, and is intended to keep heavy goods traffic out of the residential and shopping areas as much as possible. The main electricity transforming station is in the area, so that supplies can be economically distributed;

*Louis de Soissons & A. W. Kenyon, Architects.*

WELWYN GARDEN CITY: THE SHREDDED WHEAT FACTORY

WELWYN GARDEN CITY: ARCHIBALD D. DAWNAY & SONS LTD., ENGINEERING WORKS

WELWYN GARDEN CITY: THE SHREDDED WHEAT FACTORY

and the gas company has secured land for a gas works and holders; at present gas comes to the town by high-pressure main.

Small works will be grouped together, and it is intended to encourage small industries by a scheme of single storey buildings to be let off in sections.

## § 2

As the area of the town is limited by reason of its being a garden city, the industrial area is necessarily limited also, so that it becomes necessary to make the best use of the land available for industrial purposes. One of the development problems of Welwyn Garden City, as it would be of other garden cities, is to consider whether a prospective factory is likely to be of a size and to employ such a number of people as would justify the disposal of the area of land required. The tendency of manufacturers is to be extravagant in their demand for land where it is comparatively cheap, because they have in view the securing of sufficient space for future possible extensions of their works; and as it is advisable to offer land cheaply to attract manufacturers, especially in the early period, there is little or nothing in the actual cost of the land to discourage manufacturers from taking more than they are ever likely to use. At Welwyn Garden City the area of the factory area is 170 acres, which allows for thirty-four sites of five acres each. Fortunately, however, the average demand for factory sites is for much smaller sites, many being under an acre. Another point is that if a larger area of land is taken than is actually needed the difficulty arises of keeping it in order; one way of getting over the difficulty is to use the land temporarily for sports clubs connected with the factory.[1] It will be seen, however, that the problem is a real one. The Garden City Company could not afford to dispose of large parts of its industrial area unless they were to be productive, so that the matter is one to which most careful consideration has to be given. There is this much, however, to be said, that the industrial area is so planned that it is capable of extension to a certain extent, so that if factory demand quickly absorbed the land at present available, additional land could be added to it.[2]

[1] The use of industrial land for playing-fields, etc., is not economical, and at such a town as Welwyn Garden City is not necessary; there is, indeed, no need in such a town to bring social amenities too closely to the factory, for there is plenty of space in the town itself.

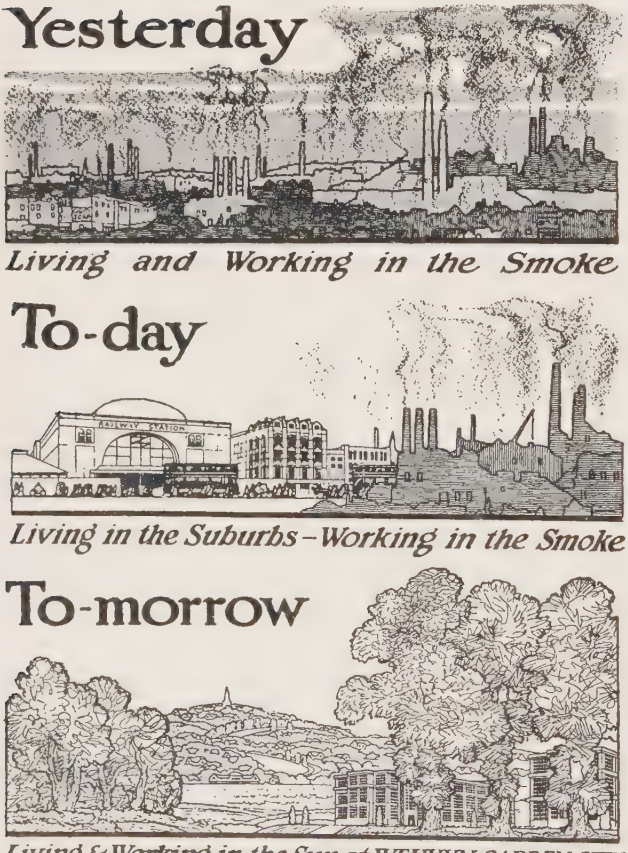
[2] See Part IV., Chapter IV., § 6.

## §3

The industrial advantages offered at Welwyn Garden City are:

1. A planned industrial site, with road, railway and other facilities.
2. Electric power and water at reasonable charges.
3. Low rates.
4. Space for extension of factory.
5. Clear atmosphere.
6. Houses for workpeople within walking distance of the factory.
7. Social amenities and entertainment for workpeople.
8. Good shopping facilities.

*Reproduced from the pages of "Punch" Christmas Number, 1920.*


Yesterday
Living and Working in the Smoke
To-day
Living in the Suburbs – Working in the Smoke
To-morrow
Living & Working in the Sun at WELWYN GARDEN CITY

The main objects with which the industrial area has been provided are to attract established industries from London, and to offer facilities for the establishment of new industries. There are many obvious advantages in an organised factory area, planned in conjunction with residential development. The manufacturer is not isolated, but is able to get the benefits of country surroundings without suffering the trials of pioneering. An industrial site that allows reasonable room for expansion, and the advantages of which are not likely to be lessened in the future by unsuitable development taking place near it, is highly desirable for manufacturing purposes. Clear atmosphere diminishes the need for artificial lighting, and by careful design factories can be built to reduce unnecessary fatigue, and in that and other ways

add to the comfort and efficiency of the workers. The employer who takes an interest in the conditions under which his work is done should be attracted by garden city conditions. Not only are improved factory conditions possible, but healthy home life is ensured by well-planned cottages. The employees do not have to travel long distances to their work, as they must in all the large cities. At the same time, there is no element of paternalism; for the worker is not living in an industrial village or in his employer's houses, but, though near his work, is a member of the general community and associates with the life of the town as a whole.

WELWYN
GARDEN CITY
400 ft
In the Hertfordshire Highlands
Twenty-one miles from Kings Cross
The New Town for Residence & Industry.
IT is not good to waste two hours daily in trains buses and trams to and from the workshop, leaving no time nor energy for leisure or recreation
AT Welwyn Garden City a mans house will be near his work in a pure and healthy atmosphere
He will have time & energy after his work is done for leisure & recreation

REPRODUCED FROM THE PAGES OF "PUNCH" SUMMER NUMBER, 1920.

An important economic factor in the favourable industrial environment at Welwyn Garden City is the low rates, which mean a considerable saving in annual outgoings on a factory of any size. High land values and high rates make unfavourable conditions for industry. This matter will be discussed later on (Part IV., Chapter II., § 7).

## § 4

The Shredded Wheat factory under construction (1924) promises to provide an interesting feature of the industrial activities of the town. It is a large building of white cement and tile, furnished with every modern equipment to ensure cleanliness and sanitation, and with dining, rest, and recreation rooms for employees. It is planned to use British

labour and British wheat. Farmers will be encouraged to grow a good quality of white winter wheat; they will be assisted in getting proper seed, and their crops purchased for cash. The process of manufacture of what is now one of the staple foods of the world is very interesting. The wheat is subjected to nine processes of cleaning, after which it is steam-cooked, shredded, formed into cakes and baked. After baking, it is put through an evaporator, where all moisture is removed, thus ensuring its keeping qualities for an indefinite period. It is then packed in small cartons, which are sealed with automatic machinery.

Mr. J. W. Bryce, the managing director of the Shredded Wheat Company, asked by the present writer why Welwyn Garden City was chosen as the site for the British factory out of the many that were considered, has written the following answer:

That "cleanliness is next to godliness" is a truth fully and unqualifiedly accepted by the executive of the Shredded Wheat Company. It believes that all food for human consumption should be manufactured under the most rigid sanitary conditions and amidst surroundings that are cleanly, healthful and pleasant. Therefore in selecting a location for a site for the British factory, Welwyn Garden City was chosen as more nearly conforming to these ideals than any of the other sites offered.

There are a number of other reasons for our choice which emphasised the value of it from other standpoints, first of which is the housing of our staff, as we expect both our office and factory staff to live in Welwyn Garden City, so that they and their families may have the benefit of the new and ideal housing conditions of the town, and also that the cost of transportation to and from their work should be minimised.

Another reason was that we could get suitable railway siding accommodation for receiving goods into the factory, and for the transport of our products to the various parts of the British Isles.

It was also considered a valuable site for the reason that our goods are manufactured from wheat, and as we expect to use British wheat only, we believe that we can get all the grain necessary from the agricultural district within a radius of fifty miles.

Again, the location is but twenty-one miles from London, and London trade can be handled very nearly as well from Welwyn Garden City as from any site in the centre of London, while being free from the smoke, grime and fog that London is apt to indulge in.

As managing director, I was so impressed with Welwyn Garden City that my wife and I were satisfied that it would be an ideal place to live in. Therefore we are now confirmed residents of it.

Having some knowledge of the prospective plans for the development of the town, I am of the belief that within a few years it will have progressed to such an extent that the improvements necessary to make it not only a clean, wholesome place, but a beautiful place, will have been fully developed.

What the Shredded Wheat Company expects to do in the development of its business in Welwyn Garden City is to make a factory which is both outwardly and inwardly a clean, sanitary building, with as much beauty added to it as may be possible to any manufacturing concern. It has always been the policy of the company, wherever located, to pay such attention to the welfare and betterment of its employees and to make the factory one of the best, if not the best, manufacturing institutions, that work becomes not a task but a pleasure. The English company has that policy in mind and will develop as fast as possible along the lines consistently pursued by the parent company. We have a dining-room at which all the employees of the factory can

receive their midday meal at a nominal cost, or free; shower-baths and sanitary toilet-rooms are furnished, with a rest-room for women and a smoke-room for the men, while many other good things will be developed as we grow, the staff being given as full consideration as it is possible to give them. The idea we have is to make in England what we have in other places, a great Shredded Wheat family, whose one aim is to live well and cleanly, the employees giving work for value received, and the company giving liberal remuneration for that work apart from any betterment conditions which may from time to time be installed.

## § 5

One of the important future industries of the town is likely to be the railway itself. The position of the town as a railway junction, and the concentration of engine sheds, repair shops, etc., which is foreshadowed in the railway company's arrangements, will bring a considerable railway population.

# CHAPTER V

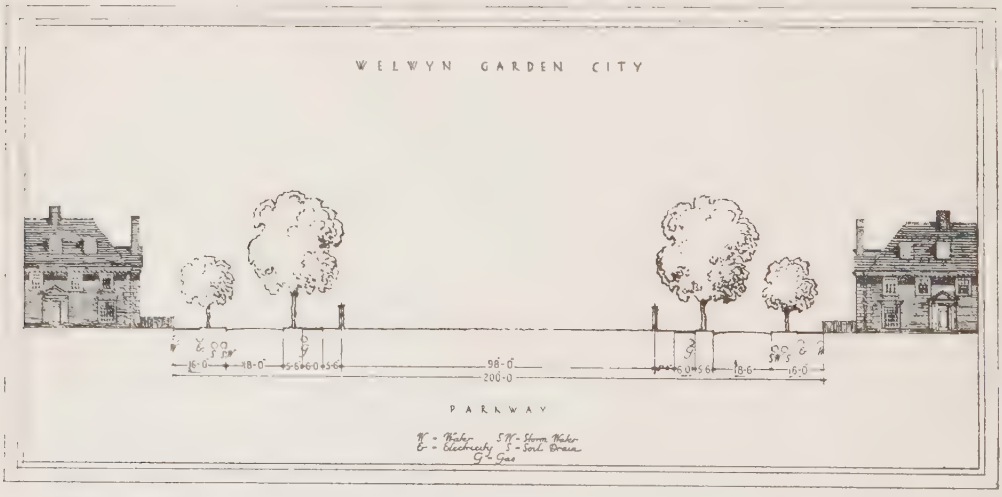
## PUBLIC SERVICES

But certes seemed that city fair enow
That spread out o'er the well-tilled vale below,
Though no wise built like such as we had seen:
Walled with white walls it was, and gardens green
Were set between the houses everywhere.

WILLIAM MORRIS.

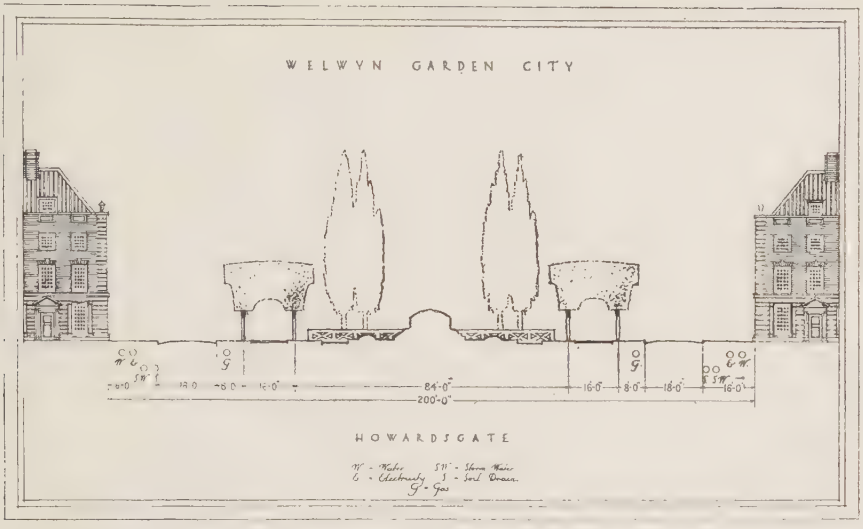
### § 1

THE Welwyn Garden City estate in 1920 was as isolated a piece of country as could be found within twenty miles of London. There were few roads and no other public services whatsoever. The Garden City Company had therefore to provide everything from the start, though it had no statutory powers of any kind, apart from the ordinary powers of an owner of land in fee-simple.

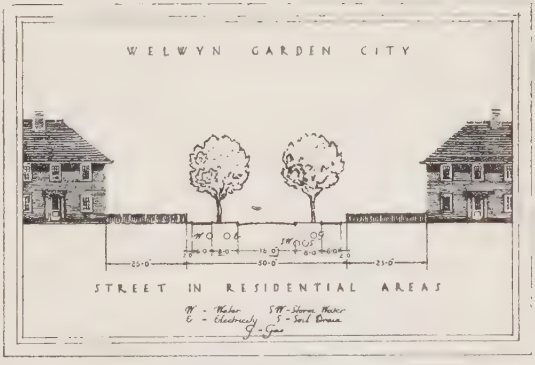



The only original metalled road of any importance was Handside Lane, which ran through the south-western part of the estate for a distance of just over a mile and joined the Great North Road at an acute angle and on a sharp gradient. The road was maintained by the county council and had a carriage-way of about ten feet. It terminated

on the north in Handside village, where it joined another public highway now called Brockswood Lane and Bridge Road. This latter road ran from the Great North Road across the estate from west to east,



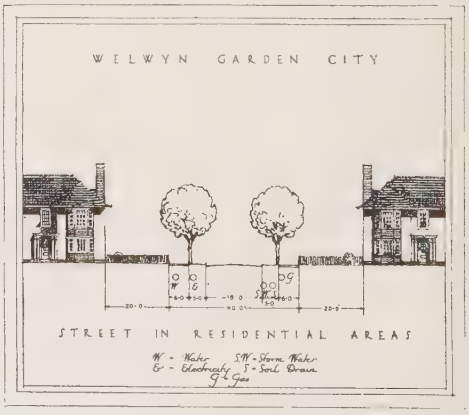

where it joined another metalled road off the estate; it had a width of about seven feet, and though it had been metalled to a certain extent for part of its length, it had not been made up for ordinary traffic, and was used as a light cart track only. To enable Handside Lane to be used the company endeavoured to get the county council to strengthen and widen it, which the county authority was slow to do, with the result that the company, in its own interests, had to spend considerable sums upon it. This road was ultimately widened and surfaced by the county council to a width of eighteen feet over the greater part of its length and a footpath constructed, the land for widening, where necessary, being given by the Garden City Company. Brockswood Lane and Bridge Road were slightly diverted and made up by the Garden City Company, the rural district council contributing some part of the cost to the construction of the Bridge Road section on



the condition that the maintenance was taken over by the county council. The first important new road to be constructed by the company was High Oaks Road, which was followed by Valley Road, which runs from the Great North Road to the junction of Bridge Road and Brockswood Lane. This road became the centre of development, and other roads were taken off it on both sides to complete the development of the area.

The presence on the estate of very large deposits of flint-stones and gravel caused the company to adopt the policy of making roads with this material, which is very generally used in the district.

The widths of the roads vary according to their use. Parkway is 200 feet wide, with two carriage-ways 18 feet wide and a strip of park or garden in the centre 132 feet wide. The normal type of through road is 50 to 60 feet between boundaries, with a carriage-way of 18 or 21 feet. Other roads are 40 to 50 feet between boundaries, with carriage-ways of 18 or 15 feet. The question of future traffic requirements was considered thoroughly, and it is believed that the widths of roads allow for any possible growth of motor traffic. Through roads are constructed of a total thickness of 15 inches, composed as follows:




| | | | |
|---|---|---|---|
| Sub-grade of fine screened gravel | 4 | inches | thick |
| Hardcore of heavy flints | 7 | „ | „ |
| Metalling of flint gravel | 4 | „ | „ |

The lighter roads in *culs-de-sac*, etc., vary from 8 to 10 feet in width, with turning-points of larger diameter, and are constructed of the same materials as the other roads, but 8 inches in thickness.

The lengths of roads constructed each year to date are as follows:

| | Main Roads Lin. yds. | Lighter Roads Lin. yds. |
|---|---|---|
| Year ended 31st March, 1921 . . . | 650 | 190 |
| " " 1922 . . . | 330 | 490 |
| " " 1923 . . . | 2,740 | Nil |
| " " 1924 . . . | 1,590 | 770 |
| " " 1925 . . (est.) | 3,360 | 870 |
| Five years' total . | 8,670 lin. yds. | 2,320 lin. yds. |

The liability for maintenance of the roads depends upon the status of the road, that is, as to whether it is a district road, the charge for maintaining which falls upon the rural district, a county road, the maintenance of which falls upon the county rate, or a private road, the maintenance of which is undertaken by the company and charged out (if at all) in accordance with the covenants in the leases granted. The company has, however, made no charge up to the present, and to avoid such charges being made, the incidence of which is often unfair and inequitable, and to provide for the maintenance of the roads up to a reasonably high standard, an arrangement is proposed for the rural district council, acting through the Welwyn Garden City Parochial Committee, to take over new roads and maintain them, the cost to fall upon the Welwyn Garden City parish only. The parish has been made a "contributory parish or place" for this purpose, being relieved of all charges for road maintenance in respect of other district roads, and bearing entirely the expense of maintenance of its own roads, apart from roads maintained by the county council. The position it is desired to establish at Welwyn Garden City is as follows:

(*a*) All new roads to be constructed on a specification and to a width agreed by the Surveyor to the county council.

(*b*) These new roads, with the footpaths and verges thereon, to be taken over by the district council as soon as

(i.) such roads are completed, and

(ii.) buildings have been erected on the sites fronting on such roads.[1]

(*c*) The district council to undertake the necessary road surfacing and tar-paving of paths, and charge the cost on the parish as a special highways area, borrowing the money for a period of five years.

[1] The roads taken over will include *cul-de-sac* roads.

(*d*) The county council to take over from the district council all main roads, the expense of which will then fall upon the county as a whole; or, alternatively, to make grants to the district council out of the county funds for the maintenance of such roads.

§ 2

Most of the roads are laid out with grass verges, and the maintenance of these verges has in some places been a matter of difficulty.

It is proposed that the district council should undertake the maintenance of the verges on all roads taken over by them, including the county roads, the verges on which the county council do not maintain. The methods that are already adopted to maintain them are:

(*a*) An endeavour is made to keep them in proper order, as it is believed that the better the verges are kept, the easier it is to secure their being respected by the public.

(*b*) They are regularly mown, and, when necessary, weeded.

(*c*) Notices are put up at a few points asking the public to refrain from walking on the grass.

(*d*) The attention of the public is periodically drawn in the local press to the fact that the prevention of damage to the grass verges improves the appearance of the town.

(*e*) Periodical instruction is given in the matter in the schools.

(*f*) Employers of labour are asked to instruct their employees to keep carts and other vehicles off the verges, and to refrain from using them as footpaths.

The verges at street corners are the most troublesome to maintain, because of the tendency to take short cuts across them; at these points the paths are made to take the line of a probable short cut, or alternatively low-growing shrubs are planted to prevent a path from being made.

In some places, particularly where traffic is heavy, grass verges cannot be maintained, and there the whole of the area is made hard. The diversion of roads and footpaths to make for improved access and to conform with the town-plan has had to be undertaken, but as in every case it has been easy to show that the diversions have been to the public interest, no difficulties have arisen.

§3

The question of sewage disposal gave the directors much anxiety, owing to the existence of the Lea Conservancy Act, which prohibits the discharge of any sewage effluent into the rivers Lea and Mimram, between which the estate lies. The problem was extraordinarily difficult and was only overcome by some ingenuity and at a good deal of expense. The Lea Conservancy Act is undoubtedly obsolete. It was passed at a time before modern methods of treatment of sewage existed, and the revision of its provisions is overdue.

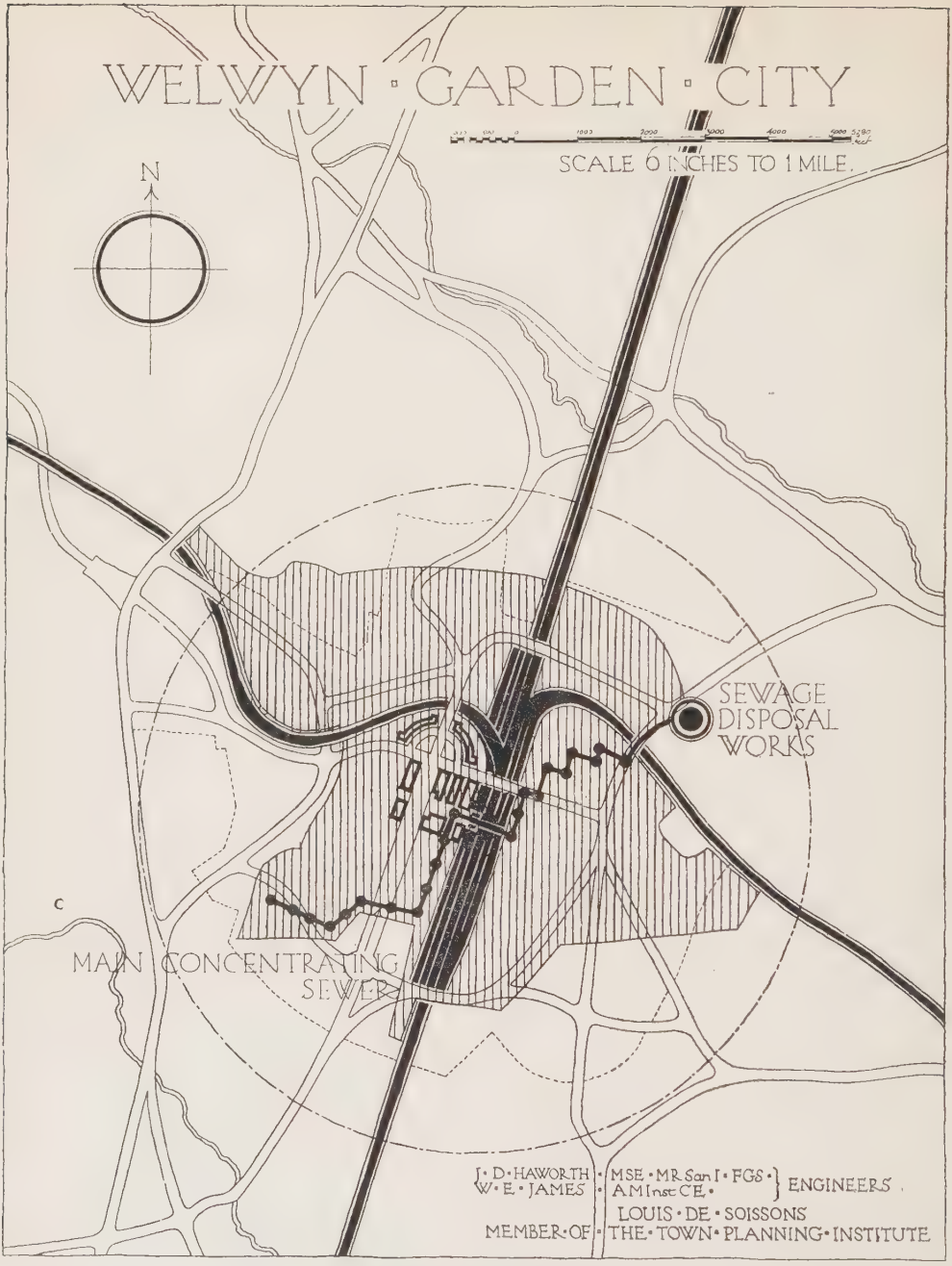
The town is sewered on the "separate" system—that is to say, the whole dry-weather flow is carried by one system of sewers to the sewage disposal works, while an entirely separate system collects all surface water due to rainfall and ultimately discharges it in the river valleys. Two alternative disposal areas were considered as practicable, and an area to the north-east of the estate to which a large part of the area could be drained by gravitation was finally selected. For the first steps of development two temporary disposal works were made to deal with the sewage from a population of 2000, the main drainage system not being constructed until 1923.

The whole of the main sewer carrying the foul water flow is now completed. It is nearly 3000 yards in length and traverses the site of the town from south-west to north-east, passing through the town centre and crossing under two railways and ultimately discharging into the disposal works.

The first units of the permanent sewage disposal works are designed for a population of 5000. They are constructed on the bacterial system with continuous flow-settlement tanks and percolating filters with revolving sprinklers governed by dosing tanks controlled by automatic syphons, the purified effluent being distributed over gravel lands below the works.

The following are the lengths of sewers laid each year:

| | Foul Water Sewers Lin. yds. | Surface Water Drains Lin. yds. |
|---|---|---|
| Year ended 31st March, 1921 | 2,240 | 660 |
| " " 1922 | 580 | 1,090 |
| " " 1923 | 2,210 | 1,080 |
| " " 1924 | 5,300 | 3,350 |
| " " 1925 | 3,760 (est.) | 2,990 (est.) |
| Total | 14,090 lin. yds. | 9,170 lin. yds. |




**Main Drainage Scheme**

The hatched portion shows the gravitation area. Outside this area to the south the sewage will be raised to the main concentrating sewer.

The company has constructed and carried out its sewage disposal scheme without statutory powers and entirely on its own account. The works have been submitted for approval to the Ministry of Health under the provisions of the statutes under which loans are advanced to the company, and the approval of the Ministry has been given. The expense of sewage disposal is payable by the lessees under the terms of the company's leases, but the company has made no charge up to the present. The sewage disposal will, of course, ultimately be taken over by the local authority.

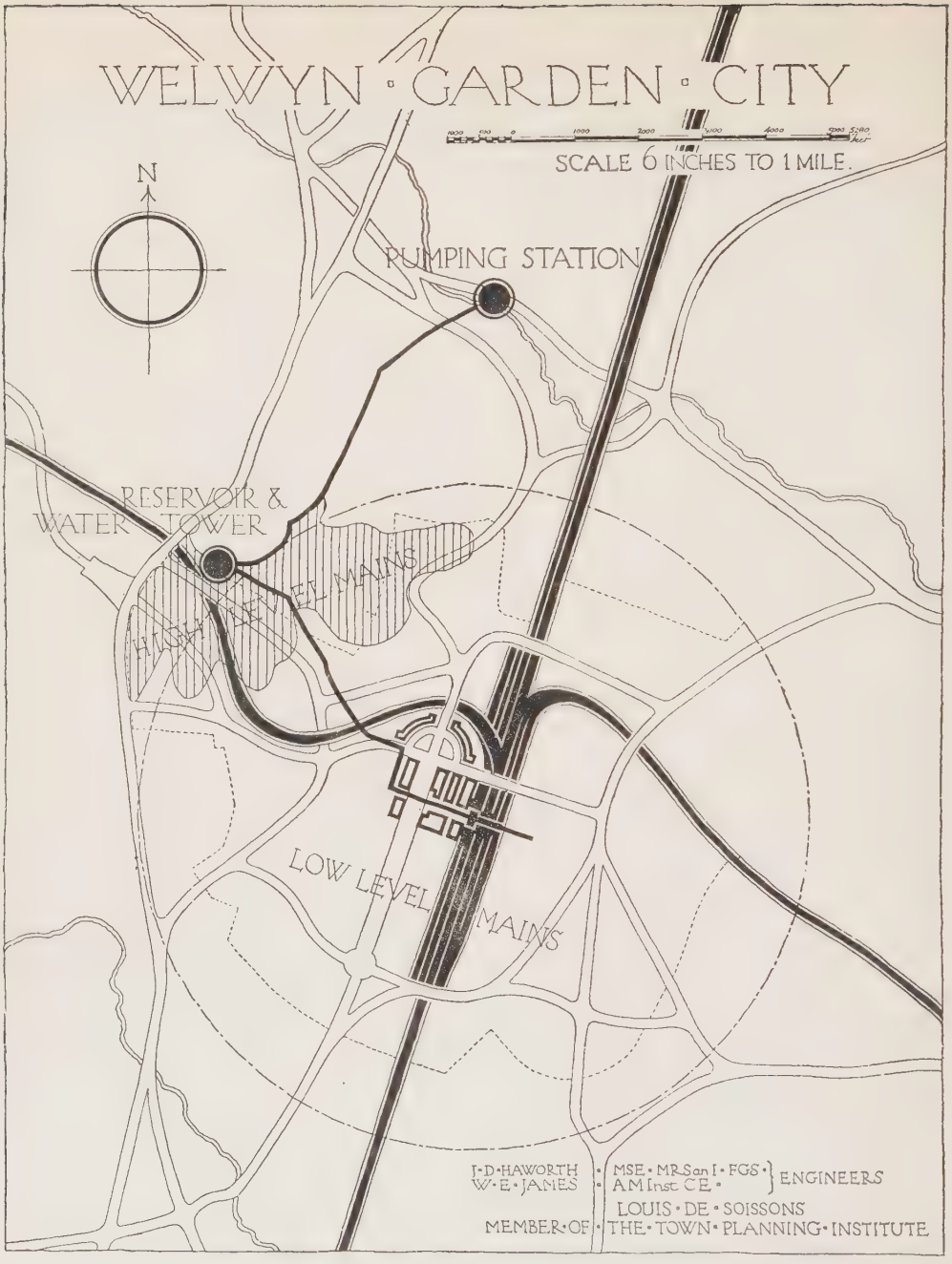
§4

A burial-ground is provided on the south-eastern boundary of the parish by the parish council, under the Burial Acts. The area of the first portion of the ground is two acres, and further land adjoining this is available for extensions. The burial expenses rate in the first few years amounted to a penny in the pound, which is likely to diminish as the population grows.

§5

The water supply is carried on by the company as part of its general undertaking. A plentiful supply of water of the highest degree of organic and bacterial purity is obtained from deep bore-holes in the valley of the River Mimram and within the boundaries of the estate, but for a little more than three years the town was supplied by temporary pumps from a deep well situated nearer the centre of population. The first unit of the permanent pumping plant has two bore-hole pumps, each capable of raising 16,000 gallons per hour to the reservoirs. The pumps are driven by two engines, each of forty-five brake horse-power, running on oil fuel. The whole of this plant is in duplicate, and one set is always held in reserve so as to ensure the continuity of supply in case of breakdown.

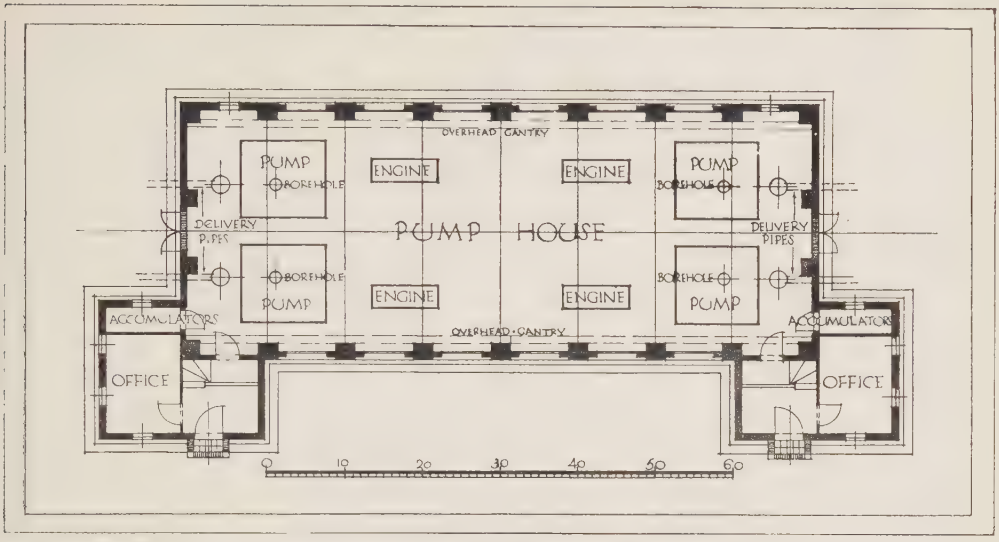
The first section of the permanent reservoirs, erected near the highest point in Sherrard's Wood, comprises two units with a total capacity of 300,000 gallons. These are constructed, side by side, of mass concrete with flat roofs of reinforced concrete carried on pillars. The pumping station is connected with the reservoirs, some 2000 yards distant, by a 15-inch rising main, and a delivery main of the same diameter carries the water from the reservoirs to the centre of the




WATER SUPPLY

With the exception of the small shaded area to the north the whole town is served by gravitation from the reservoir.

town, whence it is distributed by smaller mains. Both the pumping station and the reservoirs are arranged for extension as the population increases.




Welwyn Garden City Pumping Station

*J. D. Haworth, M.S.E., Engineer; Louis de Soissons, F.R.I.B.A., Architect.*

The following are the lengths of water main laid and the water consumption each year:

Water Mains Laid

| | Lin. yds. |
|---|---|
| Year ended 31st March, 1921 | 3,670 |
| " " 1922 | 400 |
| " " 1923 | 3,030 |
| " " 1924 | 5,250 |
| " " 1925 | (est.) 5,390 |
| Total | 17,740 lin. yds. |

Water Consumption

| | Gallons |
|---|---|
| Year ended 31st March, 1921 | 970,000 |
| " " 1922 | 5,135,000 |
| " " 1923 | 10,212,750 |
| " " 1924 | 16,290,000 |
| " " 1925 | (est.) 26,000,000 |

§ 6

The Garden City Company gave early consideration to the question of gas supply. Notwithstanding the statutory powers of the existing gas companies, the company could have constructed works upon its own estate, but after going into the matter exhaustively it was decided to endeavour to get a supply from the neighbouring gas companies within whose areas the estate came. It was not, however, without considerable difficulty that the supply was secured. The position was peculiar. The part of the estate in which development was started was within the area of the Hatfield Gas Company; but the works of the Welwyn Gas Company were nearer the site; a large part of the land which was subsequently to be developed was within the Welwyn company's area; both were small companies. After the development of the town had proceeded to a certain extent the two gas companies decided to act together to give a supply, the Welwyn company bringing a main from its works to the boundary of its area, the Hatfield company continuing the supply from that point. This was done on the Garden City Company giving a guarantee to the gas company of a reasonable return on the capital expenditure involved. The two companies have now combined and have taken a site in the industrial area of the town for a gasholder, and later on it is probable that a works will be established there.

§ 7

The estate was in the district of the North Metropolitan Electric Power Supply Company, and the Garden City Company proposed, as an alternative to setting up a supply station itself, to make an arrangement for a supply in bulk from the statutory company, whose nearest station was at Hertford, nine miles away. After what can only be described as strong persuasion the statutory company was induced to lay a high-tension main from Hertford to the estate, the Garden City Company guaranteeing a minimum revenue of £1200 per annum and undertaking the distribution throughout the estate. The Garden City Company has since formed a subsidiary company under the name of the Welwyn Garden City Electricity Supply Company, Limited, to take over the supply on the estate; and this company has been granted a provisional order giving it statutory powers within the area. The bulk supply is now interconnected with the North Metropolitan Electricity

Supply Company's stations at Brimsdown, Willesden and Hertford. The supply is taken to the main transformer station at 10,000 volts, where it is converted by static transformers to 3000 volts. Transmission through the town is mainly at 3000 volts to sub-stations, where the current is transformed to 415 volts, 3-phase 4-wire current for power and 240 volts single phase for lighting and domestic purposes. All buildings in the town have a supply available, and practically all (including all the working-class cottages) are connected. The electricity company specially encourages in its tariffs the use of electricity for domestic cooking and other purposes. The progress of the electricity undertaking is shown in the following table. Up to the end of 1924 the industrial consumption was of course small.

| Year | Miles of Cable Laid | Units Consumed | Number of Consumers at End of Each Year |
|---|---|---|---|
| 1921 | 4½ | 6,655 | 109 |
| 1922 | 9½ | 57,568 | 308 |
| 1923 | 15½ | 169,466 | 459 |
| 1924 | 22½ | 265,210 | 661 |

## § 8

The nearest railway stations to the centre of the estate were Hatfield 2¼ miles, Welwyn 1½ miles, Cole Green 3 miles, Ayot 1 mile. None of these stations was of any use for the development of the estate, and the railway company had to be induced to open a new station. This took many months of negotiation; at last a temporary halt was opened on one of the branch lines, the site of a permanent station on the main line was agreed upon, and an area of 69 acres was purchased for future railway works. The estate is at a strategic point for railway development, the land in the centre being level and the two branch lines to the east and west joining the main line at the centre and running parallel with it to Hatfield Junction, three miles away. By making the junction at Welwyn Garden City considerable economies in railway working seem to be indicated, and as the present junction at Hatfield is congested and traffic is handled there with increasing difficulty, the removal of the junction to the new station will be a factor in future railway development in the whole district. The railway service has been steadily improved to meet the needs of workmen travelling to the estate, and the needs of residents who go to London daily. It is interesting, however, to note that the railway company has been unable to

establish a service to meet the convenience of people visiting the estate, with the result that visitors who travel in the forenoon or early afternoon and return in the late afternoon have a bad impression of the railway facilities.[1]

The following statistics of railway traffic at Welwyn Garden City indicate the growth of the place:

| Season Ticket Holders | | Passenger Traffic | |
|---|---|---|---|
| 1st Jan. 1921 | 20 | 1921 | 2000 per week |
| 1st Jan. 1922 | 85 | 1922 | 2500 ,, |
| 1st Jan. 1923 | 157 | 1923 | 4000 ,, |
| 1st Jan. 1924 | 290 | 1924 | 8000 ,, |
| 1st Jan. 1925 | 410 | 1925 | 9000 ,, |

The town is connected by motor-omnibus service with the towns in the surrounding district, and with London.

§ 9

To facilitate the transport of building materials the Garden City Company arranged for the construction of a special railway siding, which is connected with areas in which development is taking place by a light railway operated by a subsidiary company. The light railway service is also connected with the joinery works, building materials depôt, and gravel and sand pits. Seven miles of light railway are at present in use, with nine locomotives and five hundred wagons. The track is easily moved and relaid as development requires, and all building sites are served. The light railway has proved of immense value in the development of the town, making building largely independent of roads and protecting the new roads from excessive traffic.

§ 10

The first works of development were undertaken by contract, but at an early stage the company considered the advisability of doing the work itself to reduce its cost and to enable modifications to be effected as work was being carried out. A subsidiary company was therefore formed for the purpose, and all the constructional works of the company, including roads, bridges, laying of sewers and water mains, etc., are carried out by this company on detailed estimates agreed with the company's engineers. The exceptions to this are the execution of

[1] The construction of the main-line station which has now been started, and will be completed this year (1925), will make possible a greatly improved train service.

specialist work such as the sinking of bore-holes, the erection of machinery, etc. Had it been possible or desirable for the whole, or even a considerable section, of the road work and laying of mains, etc., to be designed in detail and carried out in definite sequence as part of a single contract or series of contracts put to open competitive tender, that no doubt would have been the course to adopt from an engineering point of view pure and simple. But unless building works were to be undertaken at the same time and on the same scale for the same areas, it would not have been economical to do it. The plans and schemes are got out for complete sections, but the work is actually carried out bit by bit as development is required, and often it is found convenient to vary the programme, to do one particular part of the work out of its turn, to hold up other work, and to make various other modifications. Under these circumstances ordinary competitive tender for the work would not have been possible, and the only feasible way of doing the work would have been on a schedule of prices. The company's system has worked admirably up to the present and has undoubtedly, in the opinion of the officials, reduced the total costs of the work done. An important advantage is that a large measure of continuity of employment has been secured for the workmen engaged, the work being carried out in accordance with a programme which aims at such a result.

§ 11

The company considered the possibility of establishing an internal telephone system for the town, as part of its normal public services; but nothing could be done owing to the rights of the Postmaster-General, who has a monopoly of the public telephone service. The ideal that was aimed at was to connect all houses to the telephone service as they were built in the same way as to water, gas, electricity and other services. This was, however, not found practicable, but the number of post-office telephones installed is considerably above the average, being one per twenty-three of the population.

# CHAPTER VI

## AGRICULTURE

To bring about a high nobility in the national soul we must make harmony in its economic life, and the two main currents of economic energy—the agricultural and the urban—must be made to flow so that their action will not defeat each other.—A. E., *The National Being*.

### § 1

WHEN the estate was purchased there were five agricultural tenancies, three residential tenancies and a number of cottage tenancies. The whole of the land was in occupation with the exception of the woodland known as Sherrard's Park Wood. Two of the residential properties were held on long lease, but were in a position that did not interfere with development. The farms were on the usual annual tenancies. The south-west area of the estate, the most important for immediate development, was occupied by a farmer of advanced years[1] whose family had held the tenancy for several generations; he and his sons were exceptionally sympathetic towards the Garden City Company's scheme, and in spite of the disturbance caused to them, gave the company every possible facility to proceed with its work. This was fortunate, as it prevented considerable delay. The company had a good deal of difficulty in getting possession of the land to the east of the estate, and the contour survey and much other work was in consequence held up for a long time. The areas of the farms and the original rentals are given below:

| | Acres | Rent |
|---|---|---|
| | | £ |
| 1 | 595 | 612 |
| 2 | 665 | 563 |
| 3 | 276 | 236 |
| 4 | 276 | 350 |
| 5 | 76 | 95 |

The land was mainly arable and on the whole well cultivated. As soon as it had secured the estate the Garden City Company had to consider what its agricultural policy was to be, for the development of the agricultural industry was a definite part of the scheme. The town-

[1] Mr. W. J. Horn.

WELWYN GARDEN CITY: AGRICULTURAL GUILD, INTERIOR OF ONE OF THE POULTRY HOUSES

WELWYN GARDEN CITY: AGRICULTURAL GUILD, SOME OF THE PEDIGREE PIGS

WELWYN GARDEN CITY: ON THE AGRICULTURAL BELT

WELWYN GARDEN CITY: AGRICULTURAL GUILD, ONE OF THE COWSHEDS (FOR PRODUCTION OF "CERTIFIED" MILK)

plan provided for an agricultural belt of 608 acres, which was too small; but it was considered likely that other land might become available at some future date, and for the time being, at any rate, the land to remain under cultivation was considerably more than the ultimate "belt." The establishment of small-holdings was considered, but the land was not suitable for the purpose, and it was decided that the first effort should be made to encourage the provision of a good milk supply for the town and dairy produce in general. There was, however, an immediate demand for small-holdings of from one to five acres from people who saw in the garden city scheme a way back to the land, and while not encouraging the demand, the company decided to set aside a small area of land on the edge of the future town area in what was agreed to be the most favourable position for small cultivation for letting to the most promising applicants. Extra land was also wanted by people who thought of taking the opportunity of country surroundings to grow vegetables and rear poultry. A total area of about twenty acres was thus taken up; but practically none of the tenants was successful and nearly all the land has now come back into the company's hands.

§ 2

An important step was taken in 1921, when an arrangement was made with the New Town Trust to become tenants of the agricultural area as it came into hand for the purpose of farming it as a distinct garden city enterprise. The New Town Trust [1] was a body formed in 1919 by a group of people, most of whom were members of the Society of Friends, with the object of securing an estate and establishing upon it a small town or village based primarily on agricultural pursuits in association with other forms of industry. The enterprise was intended to be a social experiment, not to be run for profit, though the promoters were largely influenced by garden city ideas, many of them having had some association with Letchworth. They had taken an interest in the Welwyn Garden City as soon as it was started, and it was natural that they should have considered to what extent they could associate themselves with the new town, and that after discussion they should find that it gave them an opportunity of carrying out at least one main feature of their scheme. The Garden City Company agreed to lease to the trust 500 acres of land, including building land not yet

[1] *New Town: A Proposal in Agricultural, Industrial, Educational, Civic and Social Reconstruction.* Edited by W. R. Hughes. 1919.

ready for development as well as part of the agricultural belt; additional land has since been leased, so that the total area now held by the trust is 1650 acres, and they are the sole agricultural tenants. The New Town Agricultural Guild, Ltd., was formed to carry on the agricultural business. The guild is financed by the trust, which also controls its general policy; the business being managed by a separate committee, on which the workers are represented. The object of the agricultural guild is to supply the town with agricultural, market-gardening and dairy produce, to link together agriculture with the general life of the town, and to improve the general status and condition of the agricultural workers.

Attention was first given to the milk supply. One of the existing farms was converted into a model dairy and a herd of pedigree dairy shorthorn cattle was started. The intention was to produce the highest standard of milk, and the Ministry of Health's certificate for "certified" milk was secured. Arrangements were made with the Welwyn Stores for the distribution of this milk, and to encourage its consumption the price was fixed at ninepence per quart delivered. A determined attempt was made by the stores as the distributing agency to popularise the use of this milk, and while the sales steadily increased, especially in the summer months, it was found that its high price militated against its general use. The Health Council co-operated by recommending its use to mothers for children, and the stores spent a considerable amount in advertising, but it was found impossible to get the demand up to a point at which the production and sale of the milk could be made to pay. Consequently the guild, while continuing the production of "certified" milk, had to embark upon the production of ordinary milk, and the stores and the guild working together, one on the side of production and the other on distribution, have now developed as perfect a system as can be devised under the circumstances for the supply of milk for the town. This milk is supplied at the lowest possible price in customers' own containers, and every endeavour is made to ensure absolute cleanliness at every stage of its handling. The quantity of milk distributed by the stores is at the rate of three-fifths of a pint per day per head of the population, and by means of a low price and high quality as well as by propaganda, the attempt is made to increase the use of milk as a cheap and valuable food. Eventually, no doubt, the "loose" milk may have to be pasteurised and sold in bottles; but that will be delayed as long as it is possible to continue to maintain a clean supply by the present system.

§3

The business of the agricultural guild is conducted by a Director of Agriculture. The departments are:

Market Gardening and Fruit Growing.
Milk Production and Cattle Breeding.
Pig Rearing and Feeding.
Poultry.

At the present moment there are:

244 head of Cattle, Pedigree Dairy Shorthorns.
500 Pigs.
47 Horses, 3 Tractors } for working the arable land chiefly.

Owing to the small area of pasture land, most of the feeding is done with soiling crops—*i.e.* green succulent crops are grown on the arable land and carted direct to the cattle, either in the sheds or on the grassland. For winter consumption use is made of silage.

The certified milk is produced at the Lower Handside Farm. The dominant note of the dairy is cleanliness. Every cow is cleaned from the nose to the tail every day, groomed, brushed, washed, clipped. The floor of the cowshed is kept spick and span, with clean straw litter thrown down, the shed well lighted and ventilated. The milking is done by electricity, the de Laval process being followed; the milk flows from the teat through rubber tubing into the covered-in cans, the tubing itself being regularly sterilised by high steam pressure. Immediately the can is full, it is taken to the end of the shed and the milk is poured through an aperture in the wall into the cooling apparatus in the bottling shed. A little cover over the hole is then at once shut. The milk having passed through the cooling apparatus is received into the bottles, which are sealed and dated.

Samples of the certified milk are taken from time to time without previous notice by the Ministry of Health. Certified milk must at no time be found to contain more than 30,000 bacteria per cubic centimetre, nor any *bacillus coli* in one-tenth of a cubic centimetre. At the last test 2680 bacteria only were recorded. Every cow in the herd has passed the Government tuberculin test, and is examined by a veterinary surgeon from time to time, and every animal has to pass a half-yearly tuberculin test to ensure that it is free from tuberculosis. Here, then, at Handside Farm, certified milk is bottled within a few minutes of leaving the cow and without exposure to the air. It is the very best

milk that can be supplied, and it is available to the inhabitants of Welwyn Garden City at the lowest price at which it can possibly be supplied by those who believe that milk can never be more wholesome or nutritious than it is at the moment it leaves a healthy cow. The milk produced at the two other farms is not "certified," but "Grade A."

Pig-farming enters fairly largely into the scheme with the object of supplying pork and home-cured bacon. Pedigree herds of Middle Whites and Large Whites are the breed kept, as being the most likely to give the quality that is desired.

Exhibiting at agricultural shows is indulged in as a means of proving the class of animals kept, with good results, and the awards already include silver cup, gold medal, six silver medals, eleven first, fifteen second and seventeen third prizes, at county and other shows.

A model commercial egg-farm for 2000 laying hens has been constructed with the primary object of producing eggs. White Leghorns are therefore the chief breed kept. Heavier breeds for table purposes as well as egg production are also bred, among them being Light Sussex and Rhode Island Reds. All the stock is blood tested for B.W.D., and carriers of the disease are kept from the farm. The building up of pedigree laying strains is done by trap-nesting 1000 or so pullets. The sale of eggs for setting, day-old chicks and stock cockerels forms an important part of the business. Each laying house is planned to hold 500 birds, and stands on 1½ acres of land, with separate runs for summer and winter. Both the hatching and rearing are done entirely by centrally-heated hot-water systems with anthracite stoves. The farm uses a "Soole-Giant" incubator of 4000 egg capacity. The brooder system is an entirely new one and was, apart from the inventor's own plant, the first installation of its kind. It has since been adopted by some of the largest poultry-farms in the country. It consists at present of twelve separately regulated units, which accommodate up to 3000 chicks at a time. The young pullets from about eight weeks old are reared in colony houses on free range, and take up their permanent quarters in the laying houses at about four months. The feeding throughout is on the dry-mash system. The food shed gives storage room for twenty tons, and facilities for the mixing of all mashes and grain feeds on the spot.

Some thirty acres have been planted with fruit of various descriptions, apples, cooking and dessert, plums, cooking and dessert, black and red currants, gooseberries, loganberries, raspberries and straw-

berries. That five tons of black currants were sold in 1924 is some evidence of the development. A considerable acreage is used to grow vegetables, potatoes, cabbages, sprouts, peas, beans, celery, etc.

There is a range of glasshouses for the supply of cucumbers and tomatoes in summer and chrysanthemums during early winter.

An apiary is gradually being worked up for the double purpose of fertilisation in the orchard and a supply of honey.

The total number of agricultural workers on the entire estate when purchased for the garden city was an average of twenty-nine, with additions at harvest; the employees of the guild number seventy-two.

## § 4

One aspect of the combination of rural and urban interests at Welwyn Garden City is shown in the co-operation between the producer and the distributor of agricultural products. The New Town Agricultural Guild works the agricultural land which forms part of the garden city estate, and the produce is distributed by the stores. This co-operation between producer and distributor is an important feature of the town's shopping system. As it develops it may come to have an influence on the prices of agricultural products; for it will tend to reduce waste of every kind. Already it is a decided advantage to the producer, for it reduces transport to a minimum and removes altogether the costs of wholesale marketing, which are so heavy a burden upon the farmer, as the Linlithgow report has shown. The close touch between the producer and his organised market which is possible at Welwyn Garden City may show a far-reaching effect in helping to stabilise the agricultural industry.

# CHAPTER VII

## FINANCE

Its financial basis will in any case be found in the fact that the concourse of numbers is itself a cause of increased economic efficiency.—ALFRED MARSHALL, *Principles of Economics*.

### § 1

WELWYN GARDEN CITY has been developed by a joint-stock company named Welwyn Garden City Limited. The memorandum and articles of association of the company are similar to those of other companies registered under the Companies Acts. The object of the company as expressed in its memorandum of association is:

To found develop and carry on in the county of Hertford or elsewhere a garden city that is to say a complete town with industries public services dwellings and social amenities surrounded by a permanent rural belt.

The company has an authorised share capital of £250,000 in shares of £1 each, entitled to a cumulative dividend at a rate not exceeding 7 per cent. per annum, payable out of the profits of the company. The memorandum limits the dividend upon future shares that may be created as follows:

. . . Shares in the increased capital of the company shall be issued subject to a limitation of the dividend thereon to a rate not exceeding two per cent. above the actual percentage per annum yielded by any British Government security for the time being subsisting at the lowest price current on the London Stock Exchange on any day during the three calendar months next preceding the subscription or offer for subscription of the shares.

The object of the limitation of the dividend was to ensure that the increased value of the land should be used for the benefit of the town. The disposal of surplus profits is regulated by the articles of association thus:

After payment of any dividends to members according to their rights and interests the profits remaining shall be devoted to any purpose or purposes which the company or its directors may deem for the benefit directly or indirectly of the garden city to be established by the company or its inhabitants.

The company has a special class of directors called "civic directors"; the clause in the articles creating which reads as follows:

In addition to the other directors for the time being of the company three directors (in these articles referred to as "the civic directors") may be appointed in accordance with the following provisions:

(*a*) When and so soon as a parish council urban district council or other similar local authority having jurisdiction over the area comprising or substantially comprising the area of the Welwyn Garden City Estate shall be constituted such local authority may appoint not more than three of its members resident on the said estate to be the civic directors of the company.

(*b*) The civic directors shall hold office for the term of one year from the date of their appointment or such shorter period as such local authority may prescribe and shall be eligible for re-appointment.

(*c*) The articles herein under the heading rotation of directors shall not apply to the civic directors and they shall not be included in calculating the number of directors to retire by rotation at any ordinary general meeting. A civic director shall not be liable to be removed by an extraordinary resolution of the company.

(*d*) Each civic director shall be required to hold at least one share in his own right in the share capital of the company.

(*e*) The appointment of a civic director and the term for which he is appointed shall be evidenced by the certificate of the chairman or clerk of the local authority making the appointment. Such certificate may be recorded on the directors' minutes and when so recorded shall be conclusive evidence of such appointment and term of office.

(*f*) A civic director shall cease to be a director of the company if he ceases to be a member of the local authority appointing him such director or if he ceases to reside in the area of the Welwyn Garden City Estate.

(*g*) Save where otherwise expressed provided by these articles the civic directors shall have the same powers and authorities and be under and subject to the same duties and liabilities as if they had been appointed by the company in general meeting.

The object of the creation of the civic directors was to bring the inhabitants of the town in their corporate capacity in touch with the work of the company from the start of the scheme.

§ 2

The prospectus of the company offering the share capital for subscription was issued on 4th May, 1920, and it was anticipated by many people whose opinion was of some weight that the capital would be subscribed. The prospectus was fully advertised in the press, and was favourably received; but the subscriptions fell considerably short of expectations. The amount raised was £90,350 out of £250,000 offered. This failure to raise the initial capital was due partly to the comparatively small dividend that could be received by investors (at a time when as much as 10 per cent. and more was being offered), but principally to the fact that the flotation of the company came at almost the precise moment of the post-war financial collapse. The effects of financial

deflation were felt by the company in the restriction of credit and the fall in prices that began to take place. No worse period could have been chosen for the initiation of such an enterprise as that of a garden city, which inevitably involves a large amount of capital expenditure. The directors were able to borrow from the bank (on their personal guarantees) to enable the purchases of the property to be completed and the development works to proceed. In one sense it is fortunate that the capital issue was not successful; for much of the money would have been spent before deflation and its consequences had reduced prices. As it was development was slightly checked, and the utmost caution had to be observed in view of falling markets. Building and other similar prices did not, however, fall so rapidly as prices in other markets, because the Government's housing scheme was still in full swing. It was not until that scheme was slowed down, two years later, that prices of building materials, water and sewer mains, etc., came down. Welwyn Garden City, therefore, was to some extent a victim of the Government's policy of credit restriction, the effects of which fell indiscriminately on good and bad alike. Fortunately the scheme was so essentially sound that it survived the strain and dangers of those early days in its history.

## §3

Further applications for share capital have been received since the first issue, and the total amount subscribed is now £116,445. But the dependence of the company upon borrowed money at the start, as a result of the comparative failure of the share issue, made it necessary to put the borrowings on a proper basis. For that purpose a series of £150,000 debentures was created in June 1921, constituting a charge on the floating assets of the company, redeemable in 1961 and bearing interest at the rate of 6 per cent. per annum. These debentures were first issued privately and afterwards on a prospectus which was circulated among people likely to be interested in the undertaking. They were fully taken up by June 1924, when a series of £150,000 ten-year development bonds was created, bearing interest at the rate of 6 per cent. per annum and constituting a further floating charge ranking after the debentures. The bonds are repayable in 1934 at the rate of £105 per cent. The directors consider that the company should be in a position by 1934 to consolidate its borrowings and to issue an attractive security to investors on favourable terms, as by that time the revenues of the concern should

PLATE LVII.

Welwyn Garden City: The Agricultural Belt, Welwyn Viaduct

Welwyn Garden City: The Mimram

PLATE LVIII.

Welwyn Garden City: Monks' Walk in Digswell Park

be considerable. Although no publicly advertised issue of capital has been made by the company since its first issue of shares to test the present attitude of the ordinary investor to the undertaking, there can be no doubt that it remains unchanged. The reasons are easy to perceive. The dividend on the shares is limited so that the investor is deprived of any speculative interest in his investment, and even that limited return cannot be guaranteed at the start. Had Welwyn Garden City Limited issued its initial capital in the form of ordinary shares entitled to the full profits of the undertaking it is probable that there would have been no difficulty with the issue, for the commercial exploitation of such a land development scheme could obviously be made highly remunerative. But the company could not have made such an issue of capital and have retained its character as an undertaking conducted in the public interest. The position with regard to the raising of debentures is at present not much better so far as the money market is concerned, for although the interest is paid it is not possible in the early stages to show a revenue position that makes the security sufficiently attractive to the ordinary investor who has no particular interest in garden cities. It was with such facts in mind that the committee appointed by the Minister of Health to advise on the best methods of dealing with slum areas, when recommending the establishment of garden cities as a means of dealing with the slum question, stated (in their report of March 1920) "that the investment of a considerable amount of capital must be contemplated in . . . the general development of estates, the return upon which must be delayed for a considerable period," and recommended in their report of July 1921:

> That the development of self-contained garden cities either round an existing nucleus or on new sites should be encouraged and hastened by State assistance in the early stages, such assistance to take the form of a loan secured as a first charge upon the land developed as a garden city.

As a result of the committee's recommendations the Government introduced legislation to enable loans to be granted to garden city companies, contained in section 7 of the Housing Act, 1921, which reads as follows:

> (1) Subject to such conditions as the Treasury may prescribe and up to an amount approved by the Treasury, the Public Works Loan Commissioners may advance by way of loan to any authorised association within the meaning of section ten of the Housing (Additional Powers) Act, 1919, such money as the association may require for the purpose of developing a garden city in accordance with a scheme approved by the Minister, and section sixty-seven of the Housing of the Working Classes Act, 1890 (which makes provision with respect to loans by the

Commissioners aforesaid), as amended by section twenty of the Housing, Town Planning, etc., Act, 1919, shall, subject to the provisions of this section, apply to any advance made in pursuance of this section as it applies to a loan to a public utility society.

(2) The power to make advances under this section shall be exercised during such period as the Treasury may prescribe.

The Welwyn Garden City Company was approved as an authorised association and made application for an advance under the above section. The conditions under which advances can be made are governed by a Treasury Minute, dated 28th October, 1921, and are as follows:

1. Advances may be made in any individual case up to a total of 75 per cent. of the value, as approved by the Minister of Health, of the real and leasehold interest in land and houses acquired or to be acquired by an association together with the development thereof, provided that the amount of the advance to any association shall not at any time exceed the sum actually raised and received by that association by the issue of share and loan capital.

2. The security for the advances shall be approved by the Public Works Loan Commissioners.

3. The rate of interest shall be such as the Treasury may from time to time direct.[1]

4. The mortgages of the Public Works Loan Commissioners shall contain such covenants as the Commissioners may be advised are necessary for the security of the loan and for the due application of the money advanced.

5. The Minister of Health shall satisfy himself in such manner as he may think fit that any loan advanced by the Public Works Loan Commissioners is applied to the purposes for which the loan was granted.

6. The Public Works Loan Commissioners shall not grant a loan to an authorised association unless the Minister of Health has certified that the development work in respect of which the association has applied for a loan is essential for the purposes of the scheme, that the cost is reasonable, and that he is satisfied with the progress made in the development of the scheme.

7. Any association to whom an advance is made shall be required to give an undertaking to guarantee the repayment of capital and interest of any future loan granted by the Public Works Loan Commissioners to a public utility society for the purpose of building houses, etc., upon land owned by the association provided that no such loans shall be granted without the consent of the association.

8. The period under Section 7 (2) of the Housing Act, 1921, during which advances may be made for the purposes of this Minute shall not exceed 5 years from the date of this Minute.

A first advance of £117,000 was made by the Public Works Loan Commissioners in April 1922, making with subsequent advances a total of £194,831. The first loan was for a period of 30 years, repayable by equal half-yearly instalments including principal and interest, the rate of interest being $5\frac{1}{2}$ per cent.; subsequent loans were for periods of 25 years, the interest being 5 per cent. upon the second and $4\frac{3}{4}$ per cent. for later loans. The amounts of the loans received were much less than was anticipated, and that fact, together with the long interval that elapses between the date of making the application for the money

[1] At present under Treasury Minute of 1st May, 1923:

| | |
|---|---|
| For loans not exceeding 30 years . . . | $4\frac{3}{4}$ per cent. |
| " " 50 " . . . | 5 " |

(which takes place after it has been spent) and the date of its receipt,[1] the uncertainty as to the actual amount that will be advanced and other difficulties that have been encountered, have militated seriously against the full effectiveness of the assistance.

## §4

The following tables summarise the financial position of the company:

### TABLE A

THE CAPITAL RAISED BY THE COMPANY FROM YEAR TO YEAR

| YEAR | ORDINARY SHARE CAPITAL | LOANS AND DEBENTURES | GOVERNMENT LOANS [2] | TOTAL |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| 1921 | 99,113 | 105,159 | — | 204,272 |
| 1922 | 115,089 | 180,540 | — | 295,629 |
| 1923 | 116,069 | 102,850 | 135,056 | 353,975 |
| 1924 | 116,445 | 175,674 | 145,285 | 437,404 |

### TABLE B

EXPENDITURE OF THE COMPANY ON LAND AND DEVELOPMENT

| YEAR | LAND AND BUILDINGS | HIGHWAYS | DRAINAGE | GENERAL DEVELOPMENT | COST OF RAISING CAPITAL | TOTAL |
|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ |
| 1921 | 97,537 | 3,208 | 11,338 | 13,199 | 20,109 | 145,391 |
| 1922 | 130,031 | 7,549 | 19,669 | 32,119 | 21,569 | 210,937 |
| 1923 | 132,486 | 20,413 | 25,433 | 48,872 | 24,158 | 251,362 |
| 1924 | 134,388 | 29,760 | 51,063 | 64,893 | 25,559 | 305,663 |

### TABLE C

EXPENDITURE ON WATER AND ELECTRICITY SUPPLIES

| YEAR | WATERWORKS | ELECTRICITY SUPPLY | TOTAL |
|---|---|---|---|
| | £ | £ | £ |
| 1921 | 11,874 | 212 | 12,086 |
| 1922 | 32,149 | 11,149 | 43,298 |
| 1923 | 42,870 | 14,744 | 57,614 |
| 1924 | 58,816 | 18,573 | 77,389 |

[1] The interval between the date of the expenditure and the receipt of the loan is from six to twelve months; that interval would not matter greatly if there was a certainty as to the actual amount of the loan. The first loan was applied for on 28th November, 1921, and received on 20th April, 1922; the second on 26th October, 1922, and received on 21st March, 1923; the third on 25th May, 1923, and received on 13th August, 1923; and the fourth on 24th January, 1924, and received on 30th June, 1924.

[2] Amount outstanding after deducting repayments.

TABLE D

RECEIPTS FROM RENTS AND OTHER SOURCES

| YEAR | RENTS | WATER, ELECTRICITY SUPPLIES, ETC. | SUBSIDIARY UNDERTAKINGS, ETC. | TOTAL |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| 1921 | — | — | — | — |
| 1922 | 4,017 | 374 | 1,840 | 6,231 |
| 1923 | 4,967 | 748 | 4,935 | 10,650 |
| 1924 | 6,222 | 1,110 | 4,591 | 11,923 |

TABLE E

YEARLY BALANCES ON THE REVENUE ACCOUNT

| YEAR | BALANCE ON REVENUE ACCOUNT BEFORE CHARGING INTEREST | NET BALANCE ON REVENUE ACCOUNT |
|---|---|---|
| | £ | £ |
| 1921 | — | — |
| 1922 | 5,815 (profit) | 5,015 (profit) |
| 1923 | 9,144 „ | 7,144 „ |
| 1924 | 10,888 „ | 7,338 „ |

§ 5

No revenue account was prepared for the first year, as the company was not then fully working; in the second year the net balance on the revenue account was equivalent to just over 5 per cent. upon the subscribed share capital, and in the third and fourth years over 6 per cent. each year. No dividend has yet been paid on the ordinary shares as, in view of the capital requirements of the company, the directors have considered that the cash position of the undertaking has not justified it. The results shown by the undertaking up to date cannot, however, be regarded as altogether unsatisfactory. They justify the belief of the promoters of the scheme that the financial basis is sound, and that given sufficient time and capital for expansion a reasonable return can be earned on the expenditure involved. In the report of the directors dated 19th June, 1924, the position at that date is explained as follows:

> The nature of the company's business, which is the creation of a town on a virgin site, involves the expenditure of capital in development costs, sewerage system, waterworks and other services, throughout a considerable period. By reason of this expenditure, the estate which was purchased by the company at agricultural value is urbanised and acquires urban value; but the full realisation of the revenue arising from this change of value is necessarily postponed.

A long-sighted view of the financial progress of the undertaking is

required, for it is clear that the expenditure upon the capital works which create the town must take time to fructify. To make that time as short as possible is of the utmost importance; otherwise the capital values created will be offset by the failure to make income overtake interest and other charges.

## §6

With a high rate of expenditure and a high rate of interest a sufficient surplus of capital values over costs is required to enable the undertaking to stand the burden of interest charges on capital until expenditure becomes revenue earning. We can see, therefore, the significance of ascertaining development costs. Such costs mean the expenditure upon the development of the land, including the financial burden involved in producing, marketing, and holding it until disposed of. Much attention has been given to this matter at Welwyn Garden City, and although the undertaking has not been in existence long enough for deductions to be pushed too far, and in considering the results the difficult economic period in which the scheme was started and has been carried on has to be taken into account, yet the figures of costs that have been arrived at are of interest. In the following statement the areas developed represent the areas served by the roads, water and sewer mains, and sewage disposal works constructed to date, and the costs are the total of the direct and indirect expenditure. The part of the expenditure which is considered to have an influence upon the town area as a whole, such as compensations to tenants, the preparation of the town-plan, the contour-plan and much of the work of the engineers, surveyors and others, is spread over the town area, not over the small area actually developed.

| Areas developed (at 31st March, 1924) | Acreage | Apportioned Cost per Acre including Land |
|---|---|---|
| | | £ |
| Residential . . . . . | 104·9 | 870 |
| Workmen's Housing and Elementary School Areas | 19·0 | 703 |
| Commercial and Industrial . . . . . | 11·8 | 541 |

The area of land let and the ground-rents produced are given below:

| Residential Area Period | Area Acres | Ground Rent | Premiums |
|---|---|---|---|
| | | £ | £ |
| 1920/21 | 9·176 | 4 | 5621 |
| 1921/22 | 14·170 | 423 | 5605 |
| 1922/23 | 16·378 | 813 | 3993 |
| 1923/24 | 23·250 | 1299 | 965 |

| Workmen's Cottage Area Period | Area Acres | Ground Rent £ | Premiums £ |
|---|---|---|---|
| 1922/24 | 14·771 | 1 | 6884 |
| Commercial and Industrial Areas | | | |
| 1921/24 | 36·053 | 1619 | 2345 |

## § 7

As was foreshadowed in the first prospectus of the company, subsidiary enterprises have been very highly developed. Indeed, the financial structure of the Welwyn Garden City is largely made up of the series of subsidiary companies under the control of the parent company. This policy has been deliberately adopted and is based on the belief that while the land *qua* land will ultimately yield a satisfactory return, the immediate financial success of the undertaking depends upon the development of subsidiary businesses to secure the revenue arising from the growth of population. The selection of these businesses has been determined partly by their probable revenue-earning capacity and partly by the facilities they have provided for the direct and indirect encouragement of the development of the town.

The distributive business of the stores and the business of the restaurant have already been dealt with. Those concerns do not primarily rank as profit-making instruments to the Garden City Company, apart from the ground-rents they pay and their consumption of water and electricity. The other businesses are:

Water Supply.
Electricity Supply.
Building.
Brickmaking.
Gravel and Sand Pits.
Light Railway Transport.
Nurseries.

The water supply is carried on as part of the company's main undertaking. The electricity supply is conducted by a separate company, which is at present wholly financed by the Garden City Company, but a capital issue may be made at a future date.

Welwyn Builders Ltd. has a small amount of outside loan capital, but is otherwise financed by the Garden City Company, and the whole of the profits go to the company. The builders are a valuable adjunct to the development of the estate; they undertake the whole of the

company's own work, carry out schemes of speculative building and tender for other work on the estate.

Welwyn Brickworks Ltd. produces a red facing-brick from a clay deposit on the edge of Sherrard's Wood, near the railway. The brick is of excellent colour, and while the output is not large, not exceeding at present 800,000 a year, the bricks have been produced at a profit and have all been used in the town.

The gravel and sand pits form an extensive area of the estate, though the deposits are not worked where they are likely to interfere with development. A large gravel washing, crushing and grading plant has been erected near the largest pit, from which as much as 50,000 tons a year of aggregate for concrete construction can be produced.

The railway sidings and light railway transport is an economical factor in the development of the estate and is also a profitable business.

The nurseries grow shrubs and trees for the company's own use and for sale in the town.

All the businesses have their own responsible managements, but work together for the development of the town.

## §8

Land at Welwyn Garden City is not sold freehold, but is leased on ordinary tenancies for agricultural purposes and on building leases for 999 years at fixed ground-rents. The leasehold system has been adopted to enable control over building to be effective. It is essential to good garden city planning that the character of development should be maintained, that residential areas should be kept as such, shopping areas kept for shops, and industrial areas for factories; this can be ensured under a leasehold system. With a view to preserving for the community future increments in land value, the company considered the question of granting leases on terms that would provide for periodical revisions of the ground-rent. A frequent period for such revisions, such as ten or twenty-one years, was considered impracticable, as unless the maximum amount by which the rent could be increased was determined beforehand the lease would not have been acceptable to prospective builders; for it would not be considered a satisfactory thing to commit oneself to an unknown liability for rent. Yet to fix the maximum amount of the possible increase of rent in advance, though reducing the uncertainty, was still unsatisfactory because it would merely anticipate a

future increment in value which might have no relation to the facts. The company therefore considered the adoption of a 999-years lease, revisable at the end of each 99 years on the basis of any increase in site value of the land, the amount of the revised rent to be ascertained in the first place by the company's surveyor for the time being, and in the event of dispute by arbitration. The company was, however, advised that any such covenant in a lease would be bad, on the ground that the amount of the revised rents from time to time would be uncertain and that an agreement to pay an uncertain sum is not a rent. The company was therefore driven to consider the alternative of providing for a definite increase at the end of each period of 99 years, giving the lessee power to determine the lease at the end of each period. But this in practice had not only the objection already mentioned in connection with revisions at frequent periods, but would probably mean that if the site value had increased by as much as, or more than, the increased rent, the lessee would pay it; while if the site value had gone down and the lessee thought the increased rent was too much he could determine the lease; but in that event he would be penalised by the loss of all the buildings and improvements, so that probably he would be compelled to pay the increased rent although the site value had gone down. It is worth while to examine closely what exactly is behind the proposal to arrange for increases of rent at periods. The main idea is that the community should benefit by the rise in land value which is created by the community; and at the same time avoid the objection to the normal leasehold system whereby the lessor resumes possession at the end of a term of years, and asks the lessee to renew at a rack-rent, which includes not only the rise in value of the land, but often the annual value of the lessee's improvements. It is the same end as that which is aimed at in all schemes for taxation of land values: that the increment in site value being created by the presence of the community shall be enjoyed by the community as such and not pass into individual hands. From a practical point of view, however, what does this increase in the value of the land amount to, and what is its present value? Actually it has little market value. The present value of £100 at the end of 99 years on the 5 per cent. table is approximately 16*s*. The difference in present value between a 999-years lease at a fixed annual rent of £10 and a lease under which the annual rent is to be increased from £10 to £20 at the end of the first 99 years is 32*s*. Therefore for practical purposes increments in site value at the end of 99 years could be

ignored. In the face of this fact the company decided to adopt a 999-years lease at a fixed rent, which gave complete security to the lessee, and for all practical purposes was as good as freehold; indeed, better than freehold, because the benefits of the covenants of the lease entered into by all the lessees would be enjoyed in common by them all. The complications and uncertainties that would have arisen in attempting to get recognised an unfamiliar form of lease were avoided and the company has financially lost nothing that could have been secured.

It is necessary to bear in mind that increases in site value of residential property, which is maintained as residential property and not used for commercial or other purposes, are not usually on a high scale. If a residential area keeps its character or improves its amenities and attractiveness, so that the demand for property is specially stimulated, a certain amount of appreciation in value will undoubtedly arise (there has, for instance, already been such appreciation in value at Welwyn Garden City, many site values having increased from ten to fifty per cent.); but such increments can be regarded in the light of compensation for the risk of building in a new district.

One important factor that will always tend to prevent residential land from largely increasing in value is that there is plenty of land for the purpose, if not in one particular place at any rate elsewhere with approximately similar advantages, so that the supply is capable of extension to meet any demand. It is true, of course, that residential land in Welwyn Garden City is limited in extent because the town is limited in size, and that the increasingly superior advantages that such land may have by reason of the amenities and other features of the town will tend to increase its value over land in other places. But when other garden cities are developed they may be expected to possess equivalent advantages. The same remarks apply to industrial land to a very great extent; the appreciation in value in such land is moderate as a rule. It is when we come to land used for commercial and trading purposes generally that increments in value in the course of time may altogether exceed expectations, and may fairly be regarded as largely contributed to by the presence and increase of population. Of all land values these are the most valuable, and in their case it is justifiable to endeavour to secure some part, at least, of the values for the community. In old towns the existence of long-continued vested interests would make such attempts difficult if not impossible; but in a new town, before vested interests are established, it should be practicable

to see that the land values created are not allowed to pass entirely into private hands. One way of doing that would be a system of short leases for shopping and commercial purposes; but at Welwyn Garden City a system is being put into operation which has been described in an earlier chapter of this book.

Another point in this connection is that the comparatively sparse development under a garden city plan prevents the fabulous increase of land values that exist in congested areas. They simply do not arise because the conditions are not set up which make for excessively high land values. Land available for certain purposes is physically restricted in relation to population in the large towns, and the increase of population in the cities tends to send the value of that land higher and higher. It may be assumed that a point will some day be reached when people will no longer pay those high prices for land, and when population will cease to concentrate upon particular cities. That has happened before in history, and there is no reason to suppose it will not happen again.

§ 9

The ground-rents in general are fixed at what is considered to be their market value—that is, at the highest figure that can be obtained. Sites are taken on their merits and the ground-rent is a fixed sum—there is not one price for one man and a different price for another. The advantages that the town has to offer in the way of good planning, a well-considered scheme of development, low rates and the general amenities of the district are taken into account. No attempt has been made to dispose of land in large blocks at low rents, though sites for a number of houses at the beginning were let to public utility societies for a lower figure than would have been charged for the plots separately; but this practice has now been discontinued. No land is disposed of except for immediate building. There has been no opportunity, therefore, for speculation. The earlier rents were lower than the later rents, and the tendency, as already noted, is for a gradual rise in price, which is to the advantage of existing lessees.

Land for workmen's cottages is disposed of at a figure which will enable the cottages to be let at the lowest possible rent. The highest market price is not sought for this land, as it is considered to be in the company's interest, that is to say in the interest of the scheme as a garden city providing for the industrial population, that every encouragement should be given to the building of workmen's houses. As these

houses cannot now be built on a profit-making basis there is no fear that any substantial amount of future site value is being lost; though it should be borne in mind that as the land used for these cottages is suitable, owing to its amenities, natural features and traffic facilities, for a better type of residential property, a large amount of present site value is surrendered by not putting the land to its most profitable use. The same remarks apply to the industrial land to some extent; for at least double, if not treble, the site value could be secured for that land if it were used for residential purposes. We may pause here to answer the question that may be asked, Is it sound economics to dispose of land for cottages and factories that has a higher value for other purposes? The answer is this, that the Welwyn Garden City is not designed to secure the maximum immediate profit from the land, which could be done by developing the estate as a dormitory suburb of London, but to provide an example of a satellite town; the land being subjected voluntarily by the company to such control in the public interest as, it is contended, all such land should be. The economic problem for the Welwyn Garden City Company is to develop a satellite town, including industries and workmen's residential areas, in such a way as to create the maximum economic values of which such a town is capable. There is this other element to which consideration should be given in this connection: as the company retains in its own hands practically the full control of future land values in the commercial and trading area of the town, it may be found that a compensating advantage will be secured for the loss of values in the industrial and cottage areas; for it is possible that the presence of industries and the working population may result in a greater amount of business in the trading area than would be caused by a mere residential population, thus producing a greater total land value than such a residential population could bring into existence.

The company's policy, as has been explained, is to get the market price for its land, subject to the qualifications mentioned above. The market price has no direct relation to the capital expenditure of the company and does not require to be justified by such expenditure. Ground-rents are not based on expenditure, but are fixed at what the land will fetch in the open market when it has been developed, subject to the restrictions placed upon its use. The ultimate and final test of ground-rent is the market. It does not matter how great has been the capital expenditure entailed in producing a particular area of building

land, if there is no market for the land the producer will lose his money. In other words, the price of land, like that of other commodities, is settled by the demand. The highest bidder secures it. Everyone knows that the value of building land may rise enormously above the cost of its production in some instances, whereas in others it may fall very much below the cost of production.

It has been urged that instead of being offered at the market price, the land should be offered at a fair return on cost. That is to say, for the sake of argument, if the cost of a site is £100 and a fair return is 5 per cent., it is contended that the site should be let at a ground-rent of £5 per annum (assuming, further, that such a ground-rent can be valued at twenty years' purchase). It is not right, it is said, for a garden city company to profiteer (if it be profiteering) by asking £10 or £15 for the site merely because that is its market value; the aim should be to offer the land at the lowest possible price. On the slightest reflection, however, these suggestions will be found to be unsound. If a site is let at less than its market value, that is to say the price that the highest bidder will pay in a free market, the difference between its price and the market value is a gift to the purchaser. The market price is there in any event. In other words, not only is the future increment in value lost to the community, but a portion of its present value as well. Thus, while such a method would possibly attract business to the extent that the public realised that the land was being disposed of below its value, it would possess no other merit whatever.

§ 10

The rateable value of the area now comprised in the Welwyn Garden City Parish was, prior to the establishment of the garden city, £2852. The growth in rateable value is shown below:

| Rateable Value of Parish excluding railway (main and branch lines) | £ |
|---|---|
| 1st October, 1921 | 4,749 |
| „ 1922 | 8,085 |
| „ 1923 | 14,369 |
| „ 1924 | 17,400 |
| 1st January, 1925 | 18,653 |

The rateable value of the railway (main and branch lines) fluctuates. It was:

£8518 on 1st October, 1921
£6488 „ „ 1922
£8559 on 1st October, 1923
£6757 „ „ 1924

# CHAPTER VIII

## CONCLUSION

. . . And the city we have described being thus established in the speediest and easiest manner, it will both be happy in itself and be of the greatest advantage to that people among whom it is established.

PLATO, *The Republic.*

### § 1

ALTHOUGH the Welwyn Garden City was started so recently as 1920, it is possible to draw certain conclusions from what has been achieved; for the main features of the town are already established. It is now evident that the site is a good one for a town, and that the place shows what can be done on the satellite town principle to meet the demand for industrial and residential sites in the London neighbourhood. At the same time much has still to be accomplished, and the most vigorous, enterprising and business-like management is required to complete the town; for it is as a completed scheme that it may be expected to produce its maximum effect. A large amount of capital will be needed for some years to come, and while nothing could now actually stop its growth, the rapid completion of a substantial part of the town up to a point where revenue can meet all charges for interest on borrowed money and enable the dividend to be paid on the ordinary shares is necessary to secure a fully satisfactory result. That further stage is not far off, it is indeed well in sight; and for that reason the scheme can now be seriously regarded by all who are concerned for the future development of London and other great cities.

### § 2

In the concluding part of this book we shall apply what has been learned at Welwyn Garden City in an endeavour to work out a method by which future garden cities may be built. The value of Welwyn Garden City is that of an object-lesson in modern town-building, and the study of the place should be undertaken from that point of

view. At the same time it must be remembered that the town is not deemed to be an ideal scheme. Its conduct and management must be judged in relation to the actual limitations imposed upon its promoters by their lack of statutory powers and by the shortage of capital from which the scheme has suffered, as well as by the practical considerations that arise when embarking upon an experimental undertaking in which many interests and opinions have to be respected. With greater support it is certain that much more could have been done. A garden city undertaking is still a novelty, and the steps that have to be taken, the problems that have to be faced, and the course and direction that have to be followed are still unfamiliar. There is no technique of town-building on which to rely, and though there are men in the engineering, architectural and surveying professions who have experience in public works and in building and land development, yet there is no fund of knowledge to be drawn upon of the art of building towns and getting populations to them. This means that the technique has to be worked out as the scheme proceeds, and one of the results that the promoters of Welwyn Garden City desire to see arising from their work is the foundation of the nucleus of a school of town-construction capable of teaching that technique. The company's organisation has been got together with the idea of working out a standard or model administration for a garden city, and for that reason it embraces architectural, engineering, surveying, building, legal, financial and business departments, all of them directed to the task of creating and maintaining the town as an efficient economic organism, in which first-class facilities would be provided for industrial enterprises, with houses for all classes of people.

One consequence of the unfamiliarity of the technical and business worlds with the subject is that the interest with which the enterprise should have been looked upon was overshadowed by extreme scepticism. The general belief was that it could not be done. The times were against it, to begin with. And only those who have been most responsible for the development of the place can realise fully the extent of the obstacles that have had to be overcome. But apart from the unpropitiousness of the times, there was disbelief that the scheme itself was capable of accomplishment. It was not disputed that it was a desirable thing to do, and it was as easy in 1920 as it has been at any time in the history of the garden city movement to get people to approve of the scheme and to bless it with fair words; but when it came to

actual support of it, the fair words remained words and comparatively few people would go further. Consequently the town must be regarded as something of a *tour de force*. In the writer's opinion the scheme should not be repeated precisely in the same way and under similar financial conditions. The promoters have shown that it can be done; but they have also shown that it should not be attempted again, in Great Britain at any rate, except under altogether different circumstances. It will be necessary to prepare a workable system for garden city development and finance before other garden city schemes can be attempted, which is the subject to be considered in the concluding part of this book.

## §3

This is not the place and the time is too early to embark upon a reasoned critical estimate of the Welwyn Garden City. The present writer, at any rate, is too close to the scheme to be able to discuss it with the complete detachment that is required. Let a further five years or so pass and then it will be possible to attempt an analysis of the scheme by which to judge the endeavour that is being made to get some degree of unified architectural control of building, the benefits of the shopping system, the financial results of the subsidiary enterprises, the outcome of the agricultural policy, the effect of the removal of factories from London, and the growth of an active civic sense among the inhabitants. What the scheme offers to-day to students of town-planning and social institutions is an example of a town in the making; and the study of the early beginnings of its life and the plans of its lay-out, and their modification in practice, provide an education that can be obtained nowhere else. The town already shows its harmony with national habits and traditions. It re-creates in a modern form the small town with its intense local life which was characteristic of England, and indeed of Europe as a whole, until the industrial revolution. There is nothing revolutionary or peculiar about it, and just as the buildings fit the landscape so its social and economic activities are of the normal life of our race and time. There is a current of idealism throughout the scheme, without which it would not exist at all; but practical common-sense dominates its administration. The aim is not to make a town that should be like all other towns and so avoid originality and anything that has not been stereotyped elsewhere; but on the other hand novelty is not welcomed for its own sake. The endeavour is always made to visualise

the town as a living organism in which a right development of all its parts and the preservation of balance and proportion in its structure is the end to be kept in view.

§4

The building of such a town, or of many other towns on such a plan, is not a panacea for all our ills; but in helping to make industrial conditions more wholesome by establishing factories in good surroundings and building houses where a decent life may be lived, and by making a town in which people of every class may enjoy order, fitness and harmony in public and private buildings, something of moment is done to show the way to a better England. Indeed to show the way out of the awful and increasing congestion of London, and the endless building of suburbs; to indicate how an organised exodus of industry from the cities may be achieved; and to demonstrate how communities should be planned and developed to secure the maximum social and economic advantages for their inhabitants, is what the town has been founded to do.

In our desperately repeated and well-nigh hopeless attempts to deal with the housing problem the lesson of the garden city has still to be learned. A small part of the sums of money which are being expended on housing with very little satisfaction to anyone could be used to make garden cities that would quickly provide tangible results. The men who have founded Welwyn Garden City have the satisfaction of knowing that when at last that is attempted those who do it will not work in the dark.

# PART IV

## THE PRACTICAL PROBLEMS OF SATELLITE TOWN-BUILDING

# THE PRACTICAL PROBLEMS OF SATELLITE TOWN-BUILDING

## CHAPTER I

### THEIR PLANNING AND ORGANISATION

Now, if Parliamentary powers are necessary for the extension of railway enterprises, such powers will certainly be also needed when the inherent practicability of building new, well-planned towns . . . is once fairly recognised by the people. To build such towns, large areas of land must be obtained . . . far larger than that occupied by our first experiment. . . .—EBENEZER HOWARD, *Garden Cities of To-morrow.*

§ 1

IN the first part of this book the argument for building satellite towns as an alternative to city extensions was briefly stated, and in the second and third parts an account was given of the two such towns that have so far been established. In the final part to which we have now come it is proposed to discuss how towns on the same plan may be built in the future, and to indicate their place in regional planning and development.

No one can have followed the progress of the Letchworth and Welwyn Garden Cities as it has been described in the preceding pages without being acutely conscious of the difficulties that have faced the promoters at every stage of the development of those schemes. And while it is possible to account for those difficulties in one way or another, it is clear that eventually it must be agreed that they belong to the very nature of the schemes themselves. A town is a highly complex organism under modern conditions; and the building of a new town, quite apart from the sense of its being a somewhat fancifully artificial thing to do, undoubtedly requires considerable capital and technical resources, and appears to demand a degree of patience in waiting for results beyond (it is supposed) the capacity of human nature. There has been a certain element of safety in such views, for they have kept speculators from being tempted to embark upon city-building in search of the theoretically large profits available. Yet the idea of founding cities has appealed to kings and bishops and even municipal councillors in the

past, and may still attract a speculator of genius, who may be tempted to use it for grandiose schemes that might arouse the excitement of the world, as it has been aroused before by dreams of wealth in railways, gold-mining, land speculation and so forth. It is impossible to set any limits to what genius may attempt; but failing the appearance of such there is, perhaps fortunately, no likelihood of a spontaneous popular movement towards the building of new towns. We hardly dare to think of the probable results of such a movement, were it possible, involving as it might, under existing conditions, bad planning, inadequate public services, exploitation of the public on a large scale, and a host of minor evils that would but add to the confusion in which town development at present lies. Though we have little to congratulate ourselves upon after all; for what do our towns suffer from to-day but the effects of indifferent, haphazard and vulgar building which continue with but slight attempts at municipal control? And if we have no garden cities that are failures we have plenty of speculative land developments that masquerade under the name.

§ 2

The difficulties inherent in the creation of new towns, however, exist to be overcome, and that they are not insuperable is proved by the work of the two garden city companies we have been considering. The first thing to be observed is that the sites for the two towns were chosen by men who knew what was required and who looked well ahead, and it will be agreed that the choice was well made in relation to London. But it has to be recognised that the towns were placed without regard to any regional plan, because no such plan exists; and it is a fortunate accident, or perhaps a testimony to the perspicuity and conscience of the promoters of the schemes, that they chose the sites that they did. In spite, therefore, of the success of the schemes in this respect, they are a warning that the selection of sites for satellite towns demands the preparation of regional plans.

Suppose, as we did just now, that the building of satellite towns became considered to be so simple that groups of people could buy up large areas of land, and lay out and construct new towns on the Letchworth or Welwyn model, would that necessarily be to the public interest? Suppose they could buy the land where they liked, lay it out as they pleased, put what buildings on it they chose, do the whole

thing with its drainage and water supply well or ill, as they thought fit (or were able), could that be tolerated for long? Yet there is very little to stop them as the law, or town-planning administration, now stands. Instead of individuals or companies doing it, suppose that municipalities themselves, stirred to sudden activity, began laying out towns of fifty or a hundred thousand inhabitants with the idea of providing for their congested populations, could they be permitted to go very far in that direction? Suppose the London County Council, for instance, were to attempt (as it should) to establish new cities within a radius of fifty miles of London to meet the housing and industrial needs of the city, could they be allowed to do it? The answer is obvious: for if the suburban extension of large cities is bad (as almost everyone agrees that it is) the unregulated building of satellite towns around them would be worse. Indeed, what the large municipalities have already done, what even the London County Council has done, shows how dangerous the position is. The Becontree housing scheme, which was reviewed in the first part of this book, is an instance of what is meant.

So that in thinking of the establishment of garden cities in the future we are forced at the very outset to consider the setting up of some machinery for their control. In other words, just as garden cities are systematic town-building, they themselves need to be brought into conformity with systematic plans on a larger scale.

The making of regional plans, touched upon in the first part of this book, at least in brief outline, is not in itself a formidable task, and mere outlines are necessary for the purpose. It does not fall within our immediate purpose to discuss how those plans should be prepared. The joint town-planning committees of local authorities, which are now being formed throughout the country, may be suitable bodies to prepare them, where the areas which they cover are large enough to constitute a region (which unfortunately is not always so). But such plans, in their barest outlines, really come within the scope of a national authority, and it is probable that satisfactory results are not to be expected until the whole country is surveyed on a regional basis on something like the methods adopted for South Wales in 1921.[1]

[1] The Report of the South Wales Regional Survey Committee. (H.M. Stationery Office, 1921.)

## §3

It will be worth while now briefly to consider by what means under existing conditions satellite towns may be created (*a*) by local authorities and (*b*) by private enterprise. A local authority could, if its area were sufficiently large, plan such a town as part of a scheme under the Town-Planning Acts, and it could, theoretically, even prepare such a plan for land outside its area, though the practical difficulties would be very great unless the local authority (or authorities) in the area were willing to co-operate. But the mere plan would not be sufficient to produce the town, there would need to exist some organisation to carry out building operations or it would remain a scheme on paper. Therefore it would probably be necessary to proceed under the Housing Acts either independently of a town-planning scheme, or preferably in conjunction with it.

A local authority may acquire land under Part III. of the Act of 1890:

. . . with a view to the use thereof for purposes which in the opinion of the local authority are necessary or desirable for or incidental to the development of the land as a building estate, including the provision, maintenance, and improvement of houses and gardens, factories, workshops, places of worship, places of recreation, and other works or buildings for or for the convenience of persons belonging to the working classes and other persons.—Housing, etc., Act, 1919, s. 12 (2) (b).

And where land has been so acquired may:

. . . with the consent of the Local Government Board sell or lease the land or part thereof to any person for the purpose and under the condition that that person will erect and maintain thereon such number of houses suitable for the working classes as may be fixed by the local authority in accordance with plans approved by them, and when necessary will lay out and construct public streets or roads and open spaces on the land, or will use the land for purposes which, in the opinion of the local authority, are necessary or desirable for or incidental to the development of the land as a building estate in accordance with plans approved by the local authority, including the provision, maintenance, and improvement of houses and gardens, factories, workshops, places of worship, places of recreation and other works or buildings for, or for the convenience of, persons belonging to the working classes and other persons.—*Ibid.*, s. 15 (1) (*b*).

In the Housing (Additional Powers) Act, 1919, there is the following important section:

(1) Where the Minister is satisfied that any local authority (including a county council) or two or more local authorities jointly, or any authorised association, are prepared to purchase and develop any land as a garden city (including a garden suburb or a garden village), or any land in regard to which a town-planning scheme may be made for the purpose of such a scheme for the area in which the land is situate, in accordance with a scheme approved by the Minister, and have funds available for the purpose, he may, with the consent of the Treasury and after consultation with the Board of Trade, the Board of Agriculture and Fisheries, and the Minister

of Transport, acquire that land on behalf of the authority or association either by compulsion or by agreement in any case in which it appears to him necessary or expedient so to do for the purpose of securing the development of the land as aforesaid, and may do all such things as may be necessary to vest the land so acquired in the local authority or association.

(2) The provisions of the Housing Acts, 1890 to 1919, relating to the powers of a local authority to acquire land for the purposes of Part III. of the Housing of the Working Classes Act, 1890, shall apply for the purpose of the acquisition of land by the Minister under this section, and the Minister in exercising his powers of acquiring land under this section shall be subject to the same conditions as are applicable to the acquisition of land under the Housing Acts, 1890 to 1919, by a local authority:

Provided that, in the case of an order for the compulsory acquisition of land on behalf of an authorised association, the order shall be laid before each House of Parliament and shall not be confirmed by the Minister unless and until both Houses by resolution have approved the order, nor, if any modifications are agreed to by both Houses, otherwise than as so modified.

(3) A local authority shall have power to acquire land for the purposes of a scheme approved by the Minister under this section, and to develop any land so acquired in accordance with the scheme, and shall have power to borrow, as for the purposes of the Housing Acts, 1890 to 1919, any money required for the purpose of so acquiring or developing any land.

(4) In this section "authorised association" means any society, company or body of persons approved by the Minister whose objects include the promotion, formation, or management of garden cities (including garden suburbs and garden villages), and the erection, improvement or management of buildings for the working classes and others, which does not trade for profit or whose constitution forbids payment of any interest or dividend at a higher rate than six per centum per annum.[1]—Housing (Additional Powers) Act, 1919, s. 10.

These three sections in the two Acts, taken together, seem to give definite powers to local authorities by means of which satellite towns might be planned and developed.

Acting under these powers, local authorities could purchase large areas of land and develop them for housing purposes, and for other purposes auxiliary thereto. They could also, it seems, purchase land for the specific purpose of developing a garden city, to which a housing scheme would be ancillary, though section 10 of the Housing (Additional Powers) Act, quoted above, seems a little ambiguous. The local authority, acting under its town-planning powers, could also town-plan the land adjacent to an area purchased by it.

The powers could be exercised by rural district councils within or without their areas. It is unlikely, however, that such authorities would be able to initiate or carry through schemes as they usually lack financial resources and personnel. The same remarks would apply as a rule to urban district councils. Boroughs (except the metropolitan boroughs) could prepare schemes to be carried out on sites outside their areas; but the problems that would arise might be serious, though not impossible to overcome. In some instances it might be practicable to extend

[1] Under the Housing Act, 1921, s. 6, the rate of interest or dividend was amended to an amount not exceeding "the rate for the time being prescribed by the Treasury."

the municipal boundaries; but that might not always be desirable. The object should be to set up new urban units for the areas developed possessing some elements of independence, and to achieve that object some way would have to be found to give the boroughs an interest in the new centres. They could, for example, retain the freehold of the land and secure the increment in land values. To do this satisfactorily, however, it is undoubtedly necessary for some extension of local government powers. A very real advantage the boroughs would possess by such action would be the opportunity of dealing with their own congested areas. Would not that by itself be worth while?

The London County Council has similar powers to those of the county boroughs, and is in an excellent position to carry out a series of schemes. It has the resources and the staff, and the need presses more upon this particular authority than on any other. The council has the duty of providing for the housing requirements of the metropolitan boroughs so far as that involves building outside the borough boundaries.

The best of all the authorities in the country generally for the development of satellite towns are perhaps the county councils, under the important new town development powers given to them under the Housing (Additional Powers) Act, 1919, section 10, quoted above. The establishment of new industrial towns of limited populations, from 25,000 to 50,000, would be greatly to the advantage of the county authorities, adding to the county resources and prestige, increasing local prosperity, and providing an effective alternative to the extension of the great cities.

As an alternative to carrying out schemes directly, a local authority or county council could promote a separate corporate body under the Industrial and Provident Societies Acts to initiate and develop a garden city; they could purchase the land (compulsorily if necessary), lease or sell it to the society, and finance it under the Housing Acts by making grants or loans, or by subscribing for shares, or by guaranteeing the interest on shares or loans (Housing, Town-Planning, etc., Act, 1919, section 18). The society could become an "authorised association" under the Housing Act quoted above. Its constitution could provide for control by the local authority, and for surplus profits to be paid to the local authority. Although many municipalities have carried out large business undertakings directly under their own officials and by means of their own committees, there is a great deal to be said for such an enterprise as a satellite town being put in the hands of a distinct

body, from the point of view of good business administration and efficient working. The development of land requires highly expert management, it is essentially a creative enterprise, and though the main policy under which it is carried out should be settled by the council itself, the actual conduct of the business does not lend itself to ordinary committee management. An advantage that would be secured by this system is that the powers of the local authority under statute would be supplemented by the ordinary powers of an independent incorporated body. However, this is a large subject, and consideration would have to be given to the particular circumstances of any given scheme; it would be interesting if a local authority were to take up the proposal seriously.

## §4

The development of satellite towns by private enterprise has already been exemplified at Letchworth and Welwyn. Under the Housing Act, 1921, an "authorised association" for the development of a garden city, as defined by section 10 of the Housing (Additional Powers) Act, 1919, may receive loans for the purposes of a scheme. Section 10 of the Act of 1919 also provides for compulsory purchase of land on behalf of such an association. The Letchworth and Welwyn companies are both "authorised associations"; loans have been granted to the latter, but not to the former; the powers for compulsory purchase of land have not been exercised in connection with either scheme. Apart from these legislative provisions the two garden cities exist as unaided private enterprises without any special statutory support or control. In the present writer's opinion, as already explained, the initiation of schemes under similar conditions is not likely to be repeated. Both the undertakings are being carried out by private individuals who carry the financial risks upon their own shoulders and accept the whole burden involved, while voluntarily depriving themselves of any private profit or advantage. Such public spirit was required in those responsible for experimental undertakings taken in hand to convince the public generally of the feasibility of the garden city idea. It is, however, hardly to be supposed that the self-sacrifice which has been cheerfully exercised by the promoters of Letchworth and Welwyn is capable of being translated into a final system. If those schemes satisfy reasonable people that undertakings of the sort are financially sound and can be carried

out to the public advantage, they come within a category of public utility undertakings which should be given statutory recognition, for which public responsibility should be accepted, and from which the performance of public duties should be required. The garden cities of the future should not be carried out as mere private ventures, for they need larger financial resources than can be provided by private persons, and should be brought into conformity with some kind of national plan.

## §5

It is not desirable that the establishment and control of such enterprises as satellite towns should be placed directly in the hands of a Government department. The lack of initiative and the absence of desire to accept responsibility characteristic of State departments would be as great a disadvantage to satellite town development as it is to any other business. At present an "authorised association" for the development of a garden city applying for a loan is brought under the control of the Ministry of Health and the Public Works Loan Board. The Minister of Health has to approve the scheme in general, which means that the officials of the Ministry examine and report upon the town-planning, road construction, drainage, sewage disposal, water supply schemes, etc., in somewhat the same way as they do in the case of schemes submitted by a local authority. At Welwyn Garden City, which is the only scheme to which these legislative provisions have been applied, it has been found that the suggestions and criticisms of the Ministry of Health have been helpful; at the same time there are indications that the requirements, administration and financial conduct of the enterprise as a practical business undertaking are matters outside official experience. The Public Works Loan Board has sought to apply the same procedure that has been adopted in connection with loans for entirely different purposes, and the absence of precedent and the reluctance to create any new precedents have caused certain difficulties. It is clear that an entirely new system is needed for the proper exercise of authority over such schemes and for the provision of financial assistance. With that in view the following tentative proposals for a Garden Cities Commission are made.

## PROPOSED GARDEN CITIES COMMISSION

*Constitution and Objects.*

A Garden Cities Commission to be formed by Act of Parliament charged with the duty of reporting upon garden city schemes, assisting in their preparation, supervising their construction, and helping in their finance. The Commission to consist of five members including a chairman, each of whom should undertake specific duties and give his whole time to the duties of his office.The members of the Commission to be appointed by the Minister of Health and to hold office for three years but be eligible for reappointment, two to retire each year except in the third year, when the chairman only would retire. The Commissioners to appoint a secretary and other officers.

*Consultative Council.*

A Consultative Council to be appointed to advise the Commissioners, consisting of one member nominated by each of the following bodies: Royal Institute of British Architects, Town-Planning Institute, Surveyors' Institution, Institute of Civil Engineers, Institute of Municipal and County Engineers, Institute of Transport, County Councils Association, Federation of British Industries, Trade Union Congress.

*Approval of Schemes.*

All schemes for garden cities to be submitted to the Commissioners for report thereon, the report to be submitted to the Ministry of Health, Board of Trade, Ministry of Transport and Ministry of Agriculture. If the scheme is approved by these Departments and by the Commissioners, a company to be formed under the Companies Acts to carry out the scheme. The company to have its own board of directors and officials and be responsible for its scheme. The constitution and capitalisasion of the company to be approved by the Commissioners.

*Finance of Schemes.*

Each garden city company to raise its own capital; or alternatively an issue of garden cities stock should be made under the auspices of the Commissioners. The capital required for the following objects to be raised subject to a State guarantee as to principal and interest for a period of fifty years: purchase of land, preparation of town-plan, construction of roads, drainage scheme, water, gas and electricity supplies

and workmen's houses. The guarantee to be given subject to Treasury regulations and for expenditure previously approved by the Commissioners. The guarantee to be secured by a first charge on the company's property. The balance of the capital required for development expenditure and other purposes to be raised by the company without guarantee, the Commissioners to be satisfied that such capital is available as required; the amount of such capital to be at all times not less than ten per cent. of the total issued capital. The accounts to be subject to audit by the Commissioners. One half of the balance of net revenue after paying interest or dividend on capital and providing for reserves for depreciation of plant, etc., to be paid to the Commissioners. If any interest or other payment is made by the Commissioners under the guarantee, the amount so paid is to be treated as an advance to the company, to be repaid out of revenue before payment of interest or dividend on the capital not benefiting by the guarantee, and before providing for depreciation, etc.; or, alternatively, to be paid out of capital. The company to be empowered to pay interest on its shares out of capital for a period of years, subject to conditions to be laid down by the Commissioners.

*Expenses of the Commissioners.*

The expenses of the Commissioners to be met by fees paid by the local companies (on a scale approved by the Treasury) and by Parliament. (After a few years the work of the Commissioners should be self-supporting.) The amounts paid under guarantees should be provided out of a special fund for the purpose.

*Acquisition of Land.*

The Commissioners to have power to acquire land for the purpose of garden city schemes subject to the same conditions as are applicable to the acquisition of land under the Housing Acts by a local authority.

§6

The above proposals are put forward as a skeleton scheme only, and would require considerable amplification and modification in practice. They are designed to give the utmost freedom to the respective local boards compatible with the financial obligations assumed by the central body, the object being to encourage local and private enterprise

and initiative, and to avoid stereotyped schemes. If some such central organisation for the development of garden cities were formed, only schemes receiving its approval should be permitted to be described as "garden cities." This would protect the public from unfair exploitation and would make possible a recognised standard of town building. Much confusion has been caused by the misuse of the term "garden city," and a great deal of the popular misconception of what garden cities are is due to the application of the term to schemes that are not entitled to it, some of them being in fact the very opposite of what is meant by a garden city.

The central body would give guidance to those proposing to start schemes, and the statutory support that could be available for new undertakings would make all the difference to their prospects of success. The commissioners would be able to utilise the cumulative experience gained in the actual carrying out of garden city schemes for the benefit of successive schemes, and no one who has had anything to do with the actual development of a garden city will fail to realise the great practical value of such experience. It should not be possible for garden cities to be developed entirely independently of each other and without regard to the knowledge that has been gained in connection with earlier schemes. At present the absence of a central body actively in touch with the two existing schemes is distinctly felt, and with further schemes the disadvantage would be more acutely realised. A rapid multiplication of schemes is not looked for; but it is certain that if adequate assistance were provided it would be possible to put in hand a number of schemes in different parts of the country for which there is ample justification and even pressing need.

## § 7

It is an essential part of the above proposals that the Ministry of Health should take a definite responsibility for approving the sites of new towns as part of its town-planning functions. The town-planning department of the Ministry has necessarily before it, or at least has available, a conspectus of the country as a whole, comprising roads, traffic, drainage and public services generally, density of population, health conditions and a variety of other factors. This would be of much value if used in conjunction with the work of the proposed commission not only by giving assurance to the promoters that sites selected were

suitable for development, but by making possible the preparation of schemes for sites that might not otherwise be considered. The Ministry of Transport should also be brought into consultation, for the schemes will depend largely upon transport. The railways of the country will have to play a large part in the development of the new towns, and the responsibilities of the railway companies in this connection, as well as the opportunities offered by the establishment of the new centres for new traffic, need to be brought before the companies by the appropriate authority.

In the way proposed a step might be taken towards the systematic development of the country, leading towards a better distribution of the population by the creation of new industrial centres in places in which industry might be carried on with economy and efficiency. It would provide a means by which manufacturers could be assisted in the choice of sites for works, and the losses and inconvenience which arise from the location of industrial works in wrong situations would be avoided. Manufacturers who wished themselves to develop new centres could approach the commissioners, and by their aid could assist in the establishment of new garden cities, provided the sites were suitable.

§ 8

The provision of working-class houses in the new towns should be part of the work of the commissioners acting with the Ministry of Health. At present such houses can only be built by the local authority in whose area the garden city lies, which is manifestly wrong; for the local authority has not necessarily any interest in the scheme, and should not have thrust upon it a responsibility which it has not sought, the obligations of which it is unable to feel and may be reluctant to discharge. The successful establishment of a garden city involves the building of working-class houses at the very inception of the scheme, and some machinery for adding to the number of such houses with the least possible delay as the demand increases. Letchworth and Welwyn Garden City have both been seriously retarded in their growth by the lack of means to get sufficient workmen's cottages built. The public utility housing societies at Letchworth before the war, in spite of their great efforts, were never able to meet the demand as completely or as quickly as was required. At the end of the war Letchworth was fortunate in its district council, which put up a large programme at the

very inception of the Government's housing scheme, and was successful in getting it approved and put in hand before the scheme was cut down. Since then Letchworth has had to depend upon the reluctant approval of small schemes. At Welwyn Garden City it was only by the most persistent efforts that workmen's cottages have been built at all. The Garden City Company undertook the burden of the first scheme, and subsequent schemes by the district council have suffered extraordinary delays and have been got through with extreme difficulty. Yet a garden city not only requires such houses for its very existence, but provides the best situation for them and the best opportunity for an economic return. Nothing could more forcibly illustrate the entire absence of any sound principle of distribution of cottages than the fact that no reason for placing cottages in a garden city is supposed to exist. The argument is that as the relative shortage of houses in a garden city compared with the shortage in the great cities is so slight as almost to be non-existent (actually non-existent in the early days of a new scheme such as Welwyn Garden City), there is no need to build them there. The prevailing method of permitting most subsidised building where there is most congestion gives a special subsidy to uneconomic areas, and puts a heavy handicap upon new economic areas.

The Ministry of Health should have power to require that a town-planning scheme should be prepared for any land adjacent to a garden city scheme where it seems desirable that such should be done. This power should be exercised on the recommendation of the commissioners.

# CHAPTER II

## THEIR FINANCE

When, however, people put money directly into their own or other people's business, or when they take up new issues of shares or loans, they themselves choose the use to which their savings, or, more accurately, the productive power over which these savings give control, shall be put. Now, of competing sorts of investment all equally profitable to men, some will throw indirect costs, and others will confer indirect benefits on other people. . . . Moreover, the indirect effects of various sorts of investment extend beyond the economic into the moral sphere; and moral effects, as well as economic effects, are relevant to the conduct of investors who are anxious to fulfil their duty to their fellows.—A. C. PIGOU, *Essays in Applied Economics.*

### § 1

THE financial problem is the central problem of satellite town development. If the world could be satisfied that properly conducted such schemes would pay, and that the risk of failure were not unduly great, there would be a marked change of attitude to the idea among financial people. What is required most urgently of all to reassure the investor is some means of providing a return upon the capital invested from the start. The original shareholders in the Letchworth Garden City had to wait twenty years before they received the full five per cent. dividend upon their shares; and while the shareholders in the Welwyn scheme have the satisfaction of knowing that the company has shown since the first year a balance on revenue account equivalent to six per cent. upon their money, the financial position does not permit of a dividend being paid. Although the accumulated dividend upon the Letchworth shares amounts to £133,245, the surplus capital value of the undertaking is probably several times that amount, and if those capital values, instead of remaining fixed assets, could have been realised the arrears of dividend would not exist. But however gratifying it may be to shareholders to know that their capital is safe, it is discouraging to wait a long time for the income to mature. It should be possible to find some way in which the fixed return on the shares could be paid without waiting a long period for the fructification of the capital, providing that the capital values were maintained. If the return on the shares were not fixed in amount this would not matter

so much; for if ultimate profits were likely to be large it would be worth while waiting for them. But it is of the essence of a garden city scheme that the ultimate profits should be preserved for the future inhabitants, so that the return of the shareholders cannot be unlimited in amount. No speculative interest can therefore arise in the capital.

§ 2

It is because of the difficulty in the payment of dividends, with the consequential retarding effect upon the raising of capital, in the early years of a scheme that the committee on unhealthy areas over which Mr. Neville Chamberlain presided recommended in connection with their suggestion for the establishment of garden cities that financial assistance should be given to such schemes in the first stages. In its interim report the committee said:

> The difficulty in starting such settlements is that industries can hardly be expected to move out to them in any number before housing accommodation and amenities have been prepared for the employees, or before adequate facilities of power and transport are available for factories. On the other hand, local authorities are not likely to consider providing houses, etc., in advance of immediate requirements, nor will manufacturers bear this cost themselves so long as they can find suitable accommodation within reach of existing labour centres.
>
> It would therefore appear that the only way of escape from the vicious circle is by the intervention of the State, and that the investment of a considerable amount of capital must be contemplated in the building of houses and the general development of estates, the return upon which must be delayed for a considerable period. A good deal has been done already by private enterprise to develop garden cities, but in the opinion of your Committee, development along these lines would be greatly stimulated and quickened if further facilities and encouragement were given by the State.[1]

In its final report the committee recommended that the assistance should take "the form of a loan secured as a first charge upon the land developed as a garden city." As has already been explained, effect was given to the committee's recommendation by the legislation of 1921,[2] which provided for loans for the development of garden cities. But the granting of such loans, under the terms at present laid down by the Treasury, is not sufficient; for they are inadequate in amount when most needed and the interest and repayment of principal, which falls as a first charge on the undertaking, constitutes a heavy burden. The loans are restricted to three-quarters of the amount of a valuation of the estate (which in practice is made on an extremely conservative basis), and have to be repaid over a period of from twenty to thirty years. The expenditure upon which the

[1] Interim Report, p. 3.

[2] Housing Act, 1921, s. 7.

loans are granted is the purchase of land and the construction of roads, drainage and water; the expenditure has to be approved by the Ministry of Health prior to being made, and the works have to be passed when completed. The valuation, however, has no relation to the actual amount of the expenditure, and during the early period, when the loans are most necessary, the amount of the loans tends to be a sum much less than that expenditure.

Another point is that the early revenues of the property upon which the loans are charged are small, yet the Public Works Loan Board expects the half-yearly payments of interest and principal to come out of them, and regard with extreme displeasure the fact that it cannot be done. To be of real assistance the loans should represent the actual amount of the approved expenditure, and the interest and repayment should in the first instance be met in some other way than out of revenue. With a view to overcoming this difficulty, the proposal was made in the preceding chapter that the State should guarantee the principal and interest upon approved expenditure, as an alternative to finding the money out of the Local Loans Fund as at present; the garden city enterprise itself being made responsible for raising the money, which should present no difficulty on the State guarantee. If any interest were payable by the State under the guarantee that interest should be repayable by the garden city company out of capital, if desired, or alternatively be a debt due to the State, payable out of future revenues. Garden city companies should also have the power to pay interest on shares out of capital, and the provisions of the Companies (Consolidation) Act, 1908, s. 91, should be extended to cover it.

In Mr. Howard's original scheme he proposed that the garden city should be financed by means of debentures at a low rate of interest. He maintained that such debentures would be well secured; but he overlooked the fact that while that would be true when the town had been completely developed and the full revenues had been created, the debentures would not be so well secured (from the investors' point of view) during the early period of development. This was the chief defect in Mr. Howard's financial proposals; and its bearing was not sufficiently perceived by the original promoters of Letchworth, who were in favour of the undertaking being carried out on a voluntary basis and without State assistance. When the undertaking is established a large part of its revenues should be of a kind to bring its capital within the category of a trustee security; the difficulty that has to be overcome is the pro-

vision of capital until the town becomes a self-developing unit. The assistance required from the State is not capital for the building of a complete town but credit for the period required to enable the town to get established. In other words, external credit support is necessary until the town has developed its own credit powers. That period might reasonably be estimated to be from five to ten years, perhaps longer in some instances.

There is a great deal to be said for the Garden Cities Commission itself being in the position to raise capital for a number of schemes, for spread over a group of towns the risk would be negligible. The security for capital is the certainty of creating land values, given sound management and the choice of suitable town sites.

## §3

It does not seem necessary to argue at any length that the establishment of new centres of population and industry is a proper use to which to devote State credit. Under the Trade Facilities Act national credit has been used for the building of factories and the extension of railway enterprises in this country and for industrial activities abroad. Recently the operation of the Act has been extended to actual contributions of public money in the form of an amount not exceeding three-quarters of the interest payable in the first five years of the currency of a loan raised by or on behalf of any public utility undertaking in any part of the British Dominions, provided that the loan was raised and expended in Great Britain.[1] This financial assistance is considered to be right because "it is to be granted to perfectly sound public utility projects which were being held up for the time being for financial reasons,

[1] Extracts from a Memorandum issued by the Treasury for the guidance of applicants:

"I. In accordance with Section 2 of the Trade Facilities Act, 1924, arising out of the discussions at the Imperial Conference, the Treasury are authorised, subject to certain terms and conditions, to make a contribution of an amount not exceeding three-quarters of the interest payable in the first five years of the currency of a loan raised in the United Kingdom by or on behalf of any public utility undertaking in any part of His Majesty's Dominions. In no case will the Treasury contribution be paid direct to any company or municipality.

"II. The capital sum on which the contribution is based will be limited to the cost of the materials to be purchased and manufactured in the United Kingdom.

"VII. In accordance with the Trade Facilities Act, 1924, the Committee wish to point out that this scheme is available only in respect of public utility undertakings, which are defined as undertakings for providing and or improving communications, drainage or irrigation, or for providing power, lighting, or water. The Committee also wish to point out that the Act requires that the Treasury contribution shall be confined to loans raised in the United Kingdom. Particulars of the total amount and terms of the proposed loan, showing how such is to be obtained, will be required by the Committee."

but which would be carried out at once if some financial help were given in the shape of payment of part of the interest on the money required." (*The Times* Financial Correspondent, 9th September, 1924.)

The operations under the Trade Facilities Act provide a valuable precedent for the proposal that is made here (though not quite parallel with it), and all the reasons that can be urged in support of such financial assistance from the State apply to garden city enterprises. Employment is found for a large number of people in a great variety of trades:

Navvies and unskilled labourers in road-making, laying sewers, water, gas and electricity mains, sand and gravel working, etc.

Gardeners and unskilled labourers in laying-out open spaces, planting trees, etc.

Building trades in erecting houses, shops, workshops, factories, etc.

Foundry workers, engineers, iron and steel trades, etc., in construction of water and gas mains, sewers, valves, meters, cables, builders' hardware, pumping plants, etc., etc.

Agricultural workers in intensive cultivation of the soil.

The Linlithgow Committee, dealing with the need of credit for agriculture, said, "It is our conviction that British Credit should be made available for the development of British Agriculture with at least the same ease as for enterprises abroad."[1] The same remark might be made to apply to the establishment of new towns. The State has spent enormous sums of capital and is bearing a large annual burden in the form of subsidies for the building of workmen's houses; on the choice of sites for these houses practically nothing has been spent, yet on the choice of sites the ultimate national value of this expenditure largely depends. Under the proposed scheme for guaranteeing the capital for garden city enterprises State credit would be devoted to national development, and to the creation of wealth by the establishment of new centres of production; and by its means expenditure of both public and private monies upon building would be better secured from a business point of view.

[1] Interim Report on Fruit and Vegetables. (H.M. Stationery Office, 1923.)

§4

The expenditure involved in the building of new towns may be briefly indicated by setting out the various stages of development:

(I.) *Initial Expenditure:*

(*a*) Purchase price of land.

(*b*) Costs of conveyance, including investigation of title and other legal charges, stamp duty, etc.

(*c*) Redemption of land tax, tithe and other charges.

(*d*) Surveyors' and other charges in connection with the purchase.

(*e*) Timber (if any).

(II.) *Development (Preliminary):*

(*a*) Surveys for water and drainage, including contour survey and preparation of schemes.

(*b*) Preliminary town-plan for lay-out of roads and selection of areas for residences, industry, commerce, agriculture, etc.

(*c*) Investigations into provision of gas and electricity supplies.

(*d*) Arrangements for railway facilities.

(*e*) Survey for building and road material—gravel, sand, brick-earth, etc.—on site.

(III.) *Development Programme:*

(*a*) Construction of roads.

(*b*) Provision of water, drainage, gas and electricity in accordance with schemes adopted.

(*c*) Detailed town-planning and lay-out of areas for disposal of land.

(*d*) Placing land on the market.

(*e*) Advertising and publicity.

(*f*) Compensations to farm tenants.

(*g*) Building workmen's houses.

(*h*) Factory development.

The purchase price of the land should be on the basis of agricultural value. Great hesitation should be shown before buying land possessing an improved land value, though circumstances might conceivably arise where land at £100 an acre would be as cheap as land at £30 an acre. But normally land that has more than agricultural value should not be regarded as suitable for garden city development. Both the Letchworth

and Welwyn estates were agricultural properties with no prospective building values, and were purchased somewhat above market values. The Letchworth estate was pieced together by purchases from a number of owners, most of whom were not contemplating selling, which accounts for the property showing a return of two per cent. only; the Welwyn estate showed a return of three per cent. The difference between the net revenues of the properties and the price at which the capital was raised represented a burden of some consequence. A certain proportion of such loss is to be regarded as inevitable, as the price at which land is likely to be purchased will show no better yield than Government stock, while a garden city company is not likely to be able to raise its initial capital at so low a rate.

§ 5

In choosing sites for satellite towns, should existing small towns be chosen that seem to be capable of further development or are entirely new sites to be preferred? The new site will give a freer hand, and though any site near a city is almost certain to have on it a village or two, that very rarely will make any difference. To plan the new town with the single object of securing the best results can only be done when the site is free from vested interests. In an old town there is the advantage of an existing nucleus of building, but there are also all sorts of vested interests which it will always be difficult, sometimes impossible and often unfair, to interfere with. There is something attractive in the idea of using old small towns as nuclei for garden cities; but it is probable that the difficulties of the development of a new town around an old one would be enormous. People do not like change, and residents of old towns would usually bitterly resent interference with their habits. The old town might therefore become a bad kernel to a new one. On the whole it is probably better to keep the old small towns much as they are; some might slightly be enlarged, but their character should not greatly be changed. For new towns new sites will give the best results.

§ 6

The land purchased should be compact and without intervening pieces of land, however small, in other ownerships. It is of primary importance that the garden city company should have control of the

entire area, as the use of the land contrary to the purposes of the company might cause great difficulties and even make it impossible to carry out the scheme. The area should be sufficient to provide an agricultural belt, the extent depending on many considerations; if a large area has been scheduled as agricultural land under a town-planning scheme, no more than a small part need form part of the garden city estate, though it should still be observed that the wider the extent of land controlled by means of ownership the better.

## § 7

Nothing could be more reasonable in connection with the establishment of new centres of population than the creation of rural belts around them, either by the purchase of the land for the purpose, or the formulation of such town-planning regulations as would maintain the rural condition of the land and prevent its building development. It is precisely the land adjacent to new populations on which unearned increment, in the strict sense of the term, arises. It is the owners of this land who, in the famous phrase of John Stuart Mill, grow rich in their sleep.[1] To secure a wide area of land as part of a garden city scheme is therefore sound policy, and powers are required to enable that policy to be made effective.[2]

The initial capital for a scheme should be sufficient for the purchase of the land and the preliminary development expenditure (I. and II. above). The whole of the capital for the development programme (III.) is not needed at once, for nothing is to be gained by spending too far ahead of probable demand. The town should be developed in stages, and though a certain degree of speed is necessary up to a population of 10,000, undue haste is to be avoided. A town should be a fairly slow growth. The capital provided for the scheme must be sufficient to meet all charges, including, as we have already indicated, interest upon the capital itself until its expenditure becomes productive.

What total amount of capital is necessary for a garden city scheme is a question difficult to determine, and the attempt to answer it would

[1] "They grow richer, as it were in their sleep, without working, risking, or economising."—*Principles of Political Economy* (Book V. Ch. II. § 5).

[2] Welwyn Garden City provides an instance of value being given to surrounding land solely by reason of the expenditure of the Garden City Company. Already attempts have been made to force the company to give an inflated price for adjacent land on the threat of developing it to the detriment of the scheme. There should undoubtedly be some legislative provision to prevent that kind of thing, and to enable land to be secured that is necessary for further development at a reasonable price.

have but an academic interest. Obviously, so much depends upon the physical and geographical position of the site, the character and size of the town to be built, the public services available, and a large variety of other factors, that each proposal must be considered on its merits. In the earlier chapters of this book particulars of the expenditure upon Letchworth over a period of twenty-one years and up to a population of 13,000, and Welwyn Garden City in four years, up to a population of under 3000, have been given; but it will have been noticed by the reader that the expenditure on these two undertakings varies greatly in spite of their similarity in many respects, which is due partly to the fact that one was started before the war and the other after, but also to other causes. One thing is certain, that the promoters of a garden city company do not need to contemplate the provision of the total capital required for the building of a town; for a town once established attracts capital from innumerable and unexpected sources. There are indeed no better and more profitable outlets for capital than are to be found in successfully developing town sites. The capital required by the company for actual development works is much less than is generally supposed, and may be estimated at from £500,000 to £750,000.

A method of raising money from time to time as expenditure proceeds is necessary, and for that purpose the central organisation should be in a position to assist in the preliminary financing of schemes, the initial capital being replaced by a permanent issue at a later stage.

## § 8

The financial success of a garden city depends largely upon the market that is created for the land. The site is purchased at agricultural value, it is planned, and roads, sewers, water supply, etc., provided. There is no existing population to make a market value more than that of agricultural land, so that people must be attracted to it and persuaded of its new urban value. We have already touched upon this matter, but it seems desirable to discuss it a little further.

There is no definite relationship between the cost of development and the price of building land.[1] The price of land is determined by the

[1] Price has this relation to cost, that unless the price covers cost the production of building land will cease. The present cost of production is much higher than before the war, therefore to maintain production prices must increase; they have not, however, increased so far in proportion to the increased cost, because until recently there was much land developed before the war in the market. The supply of that land is now coming to an end, and prices of building land will soon be affected by post-war costs. There has been comparatively little development since the war, except for housing schemes.

law of supply and demand, and depends upon the advantages of the land compared with other land. If land is well situated it will fetch a higher price than if it is badly situated; if two pieces of land are equally well situated they will fetch the same price, although the cost of development of one piece may have been high and the other low. The profit upon the land which has been developed at the lower price will be the greater, and the value of the land before development will normally be higher. If, after land has been developed, it does not offer such amenities and advantages as will fetch a price in the open market sufficient to cover its original value, plus the cost of development, money will be lost.

The cost of development has this bearing on the matter, that it is advisable to ascertain what that cost is likely to be, and then to judge whether the developed land will offer such advantages in comparison with other land as will cause it to command a market value which will repay the original cost of the land, plus cost of development, plus profit. For that purpose a system of development costs is an imperative necessity. It should be kept in the same way as manufacturer's costs and started at an early stage, although the analysis of expenditure adopted in the first year or two may afterwards need revision. The chapters dealing with Letchworth and Welwyn finances should be consulted in this connection. Owing to the divorce between actual and economic rents of working-class houses, developed land has little or no economic value for the purpose of cottage building. As regards land for shops, factories and better-class residences, developed land has to-day a higher value than it had before the war.

The final market price of the developed land will be that of equally advantageous land available for the particular purposes for which the buyers require it. Generally speaking, the market value will be influenced by the intensity of the demand for land in the neighbourhood of the city to which the satellite town geographically and economically belongs. The advantages offered by the new satellite town should be such that the market value of developed land should be above the average ruling for land at the same distance from the city.

The cost of development should be lower than the normal cost of development, owing to the existence of the plan and the organisation of the business. But the cost of the creation of the market may be a considerable item.

At the start it will be highly inadvisable to ask too high a price for land. It is better to test the market gradually and to endeavour to

encourage demand by attracting people at a reasonably low price, and then, as the town increases in size and the demand increases, to raise prices until the demand is satisfied, but always keeping the price low enough to maintain a fairly strong demand. After some 50 to 100 acres have been disposed of, a bolder policy may be adopted than would be wise at first. Until the town has been established the demand will have to be stimulated by advertising and other methods, not the least effective of which will be the offer of land at attractive prices, irrespective of the cost of development.

Speed in development is of the first importance to enable the company to create revenue to help to meet the charges for public services, and to benefit from revenues derivable from the presence of a community with its social and commercial activities. Speed in development will also tend to reduce the cost of development.

Land values are created chiefly by the growth of population, and are contributed to by public and private enterprise. There is no doubt that the manner in which development is carried out has a marked effect upon them. In England generally land values are much below what they are abroad, particularly in America. One explanation of this is that far less is done in this country to develop them than is attempted in America. The scientific study of this subject is greatly neglected.[1] Much would be gained by the systematic attention to it that would result from the development of new centres of population under the auspices of the proposed Garden Cities Commission.

[1] *Principles of City Land Values*, by Richard M. Hurd, first published in New York in 1903, and reprinted several times since, is one of the most useful books on the subject. It contains many interesting diagrams and tables. The writer maintains that there is a direct relation between city population and values. He gives the following interesting table (p. 142), the figures in which, it should be noted, represent pre-war values, present-day values being higher:

| City Population | Best Business Area per Front Ft. | | | Best Residential Area per Front Ft. | | |
|---|---|---|---|---|---|---|
| | £ | | £ | £ | | £ |
| 25,000 | 62 | to | 82 | 5 | to | 8 |
| 50,000 | 123 | „ | 205 | 8 | „ | 15 |
| 100,000 | 247 | „ | 411 | 15 | „ | 31 |
| 150,000 | 308 | „ | 514 | 21 | „ | 41 |
| 200,000 | 370 | „ | 616 | 21 | „ | 62 |
| 300,000 | 514 | „ | 925 | 41 | „ | 103 |
| 600,000 | 822 | „ | 1438 | 103 | „ | 205 |
| 1,000,000 | 1438 | „ | 2055 | 144 | „ | 308 |
| 2,000,000 | 1849 | „ | 3288 | 205 | „ | 411 |
| 3,500,000 | 3699 | „ | 7192 | 822 | „ | 1849 |

To convert the above figures to the rate per acre, multiply by 435·6.

A more recent work is *City Growth and Values*, by S. L. McMichael and R. F. Bingham (Cleveland, Ohio, 1923).

## § 9

The remarks in the preceding section upon speed of development apply to the land available for residential and industrial purposes, not to commercial sites. It would be a mistake to dispose of those sites too quickly, and a fatal mistake, financially, to dispose of them at too low a price. Trading concessions should be carefully dealt with, for that is where communities can rapidly and finally lose most of the land values they create. Great skill is undoubtedly required to make the most of those values. The growing community must be served by shops, but future values should not be sacrificed for the sake of immediate results. This question is discussed at some length in the Welwyn Garden City part of this book (Part III., Ch. III.). The methods adopted at Welwyn may not be practicable everywhere, and other ways of reaching the same result may no doubt be found. The erection of shop premises by a garden city company (or by a subsidiary company) to be let on short leases would be one alternative method. There is much to be said in its favour. But whatever method be adopted, the end to be aimed at is the preservation of the land values created by trading opportunities.[1] In addition to shops, there are licensed premises, garages, kinemas, and so forth. Concessions for all these have considerable and rapidly increasing value and should not be too readily disposed of.

## § 10

Certain public services must be charged for on the basis of the measurement of the service rendered, for example, gas and electricity. Other services may be dealt with in one of two ways, or by a mixture of both. They may be covered by the ground-rent, or provision may be made for a separate annual charge in the form of rates. Both of these charges, if fixed, may be commuted into a capital payment. The charges for certain public services, as for example sewage disposal, street lighting, public parks and gardens, may be included in rent. Other services, such as streets, paving, etc., may be charged direct in the form of a capital sum based on frontage or on area.

The relative merits of the different methods of charging for services

[1] How great they may be under certain conditions is indicated in the quotation from Hurd's book in the footnote on the previous page.

deserve a certain amount of attention. The crowding of charges for public services into rent may have an undesirable psychological effect, even if financially sound. It may not be realised what the rent covers more than the market price of the land, and consequently the garden city may get the reputation of being a place in which high prices for land prevail, which may check demand. If the occupier pays separately for certain specified services, he realises what he is getting and why he has to make a payment. Moreover, the fixing of a charge for public services, and particularly the commuting of such fixed charges, gives an undesirable lack of elasticity. If the cost of the services increases, there is no means of increasing the annual charge. Other things being equal, it is probably advantageous to make a fixed charge—annual or commuted—only in respect of certain services which are immutable, as for example the first cost of streets, roads, public parks, etc., and to leave the cost of upkeep of such services and other variable items, such as lighting, etc., to be charged in the form of a rate, or some other form of contribution to be fixed from time to time by the company according to the cost.

A garden city company has no statutory power to levy a rate, but it can provide for payment in its agreements. For instance, a water rate can be levied on the basis of a contract between the company and the users of water. At the same time it is advisable to avoid creating the impression that a tenant may be called upon to pay any rate that the company may see fit to impose in the future. The company should endeavour to define exactly what charges the tenant may have to pay from time to time.

## § 11

An important element in land value is the amount of the local rates. New towns started in agricultural districts will be subject in the first instance to the rates of rural districts, which are much lower than town rates; and the increased rateable value produced by the town will actually tend, at the start, to reduce the amount of the local rural rate. The low rural rates are, however, not likely to continue, because the costs of education and local public services are certain to increase in the garden city; but the rates should still remain lower than the average. At Letchworth the total rate in 1923–24 was 11*s.* 2*d.* in the pound; at Welwyn Garden City the rate was 7*s.* 11*d.*

The average rates in England and Wales in the year 1923–24 were 12*s.* 2*d.* in the pound; about 63 per cent. of the rural districts had rates less than 12*s.* in the pound, and 43 per cent. of urban districts; while nearly half the rural districts had rates less than 10*s.*, but only 10 per cent. of the urban districts had rates less than that amount. A difference in the annual rate of every shilling in the pound is equivalent to an advantage of 3·46 pence per week upon a workman's house rated at £15; at twelve houses to the acre the advantage is £9 per acre per annum, which at eighteen years' purchase is £162 per acre in capital value. Or take a factory building on an acre of land assessed at £500 a year, the difference of one shilling in the rate in the pound makes a difference of £25 a year in the outgoings, or the equivalent of £450 an acre in the value of the land. It should also be noted that assessments for rating purposes are usually lower outside the great towns than in them. Low rates, combined with low assessments, provided public services are reasonable, give a greater economic advantage to the localities where they exist than is generally realised.[1]

The effect of garden city finance upon local rating is a matter that is worthy of a good deal of study. In Mr. Ebenezer Howard's original scheme the rate-rent paid by the inhabitants was intended to cover local taxation. It is not practicable for a garden city company to fix, and to get the lessees to agree to pay, a ground-rent sufficient to cover local rates, because the future liabilities under that head are uncertain. Of the local rates that are paid, the county rate, apart from a proportion of the local charge for education, will be practically outside the control of the garden city area; the poor rate will also be outside the control of the area, unless it is large enough to cover a whole poor-law union, which would be unlikely; and the district rate, even to the extent that it is under the control of the area, is in the hands of the council appointed by the inhabitants, not of the garden city company. Therefore if the ground-rents paid in the garden city were to cover rates, the garden city company would be making itself responsible for liabilities it would have no power to control. The garden city company can do nothing else but allow the inhabitants to be subject to the rates made to meet local county and municipal expenditure in the usual way. There are, however, two directions in which garden city development has a bearing upon the amount of rates paid. In the first place a garden city company

[1] See the speech of Sir Theodore G. Chambers at the general meeting of Welwyn Garden City Ltd., reported in *The Times*, 7th July, 1923.

does a certain amount of work that would normally fall upon a local authority, the cost of which would have to be met out of the rates; and in the second place the provision that is made for surplus profits to be devoted to the benefit of the town may come to have a far-reaching effect in relief of municipal expenditure. At Welwyn Garden City, for example, the company has prepared and administers the town-plan, supervises the erection of buildings and approves plans for building, has prepared and carried out the main drainage schemes for foul and surface water and the sewage disposal works. The mere existence of the scheme and the single ownership of the land that comes from it effects economies. Further, the loan charges on such undertakings as the waterworks are borne by the company and do not fall on the rates. All of this means that the rates, which would otherwise be high until the town was established, are kept low and are affected only by such expenditure as education, lighting, refuse disposal, and so forth. The staff of the local authority and its administrative expenses are not greatly affected.

§ 12

What surplus profits are likely to be realised by the company, and to what extent they will help to meet local expenditure, it is not possible to forecast; but it is not unreasonable to suppose that by the time a town reaches, say, 15,000 inhabitants there should be an appreciable balance of revenue over and above what is needed to meet all the charges and expenses of the company, including reserves for depreciation and the fixed interest and dividend on the capital. As population increased the amount available should further increase, until it becomes a large sum. This money could be used for the provision of amenities and the improvement of parks, playgrounds and recreation generally, educational facilities and many other public purposes, the effect of which would be not only to make the town a more desirable place in which to live but tend to reduce the rates. That this is not a mere fantasy there is every reason to believe when we consider the revenues derived from communities in the form of ground-rents and profits of many other kinds, all of which under normal conditions go entirely into the pockets of private persons or corporations.

It is worth noting in this connection that in the period from 1904

to 1914 the Garden City Company at Letchworth, although it had at that time no surplus profits, had spent the following sums on the town, which are an earnest, as it were, of the future:

| | £ |
|---|---|
| Education | 870 |
| Street Lighting, Sewage Disposal, Refuse Collection | 1380 |
| Public Swimming Bath, Market Omnibus, Reading Room, Fire Brigade, etc. | 1190 |
| | £3440 |

At Welwyn Garden City the company has agreed to pay £100 a year for five years to the school managers towards the headmaster's salary, and in addition from 1920 to 1924 expended the following amounts:

| | £ |
|---|---|
| Education | 108 |
| Street Lighting, Sewage Disposal, Refuse Collection, etc. | 1345 |
| Fire Protection, etc. | 567 |
| | £2020 |

The above figures are by no means a complete statement; neither is any account taken of indirect expenditure upon various objects.

# CHAPTER III

## THE SYSTEM OF AGRICULTURAL BELTS

The best way of binding a free society together is by multiplying reciprocal obligations, and creating a general dependence between all its members.—Sir James Steuart (The Works of, 1805).

### § 1

IN the garden city theory of town development agricultural belts do not mean the preservation of green girdles around towns, such as are shown in the London Society's Development Map of London, or the maintenance of park belts, as in some American cities. They are wide stretches of food-producing land surrounding towns, to be retained as an integral part of town economy. The question of agricultural belts is as old as the establishment of towns. No one can study ancient and mediæval town-planning without observing that the relation of agricultural land to towns was considered to be of first importance. Sites were chosen and towns were planned having regard to the need for food supplies. The Greek and Roman city-states were town and country forming an economic and political whole, and what has been called the "healthy interaction of rural, urban and commercial life upon each other" is characteristic of civilisation at its best. The cities of the Middle Ages had to give constant attention to their surrounding agricultural areas.[1] The industries of mediæval England, though mainly concentrated in towns, were also largely scattered throughout the rural districts in the villages, and people often were engaged in agriculture in conjunction with some other occupation. It was not until the nineteenth century, when the rise of mechanical industry was accompanied by the development of transport and the growth of great wheat-producing areas in America, that the importance to urban communities of immediate contact with agriculture began to be ignored. The factory towns

[1] The great Italian towns, which were the seat of manufactures, had considerable difficulty in obtaining sufficient food supply for the large populations which had been attracted to them, or had grown up within their walls. Venice was compelled to control the agricultural produce of her own district . . . Florence and Milan, Bern and Basel, Ulm and Strasbourg, had alike to give their attention to the question of food supply.—*Cambridge Modern History*, Vol. I. p. 516.

were populated by people practically driven from the land, who retained no energy, time or taste for agricultural interests, and in the course of the last century the towns have more and more appealed to the enterprising countrymen, so that the great mass of the people have now no longer even the remotest knowledge of agriculture as the fundamental industry upon which all other industry depends. It has been the dream of many industrialists that England should become the workshop of the world, and that the nation could afford to leave so primitive an industry as agriculture to less developed countries. During the Great War for a short period we learned the folly of that dream, for inhabitants of cities had forced upon them the importance of maintaining the food supply; but the divorce between agriculture and other industry has had so profound an effect upon society that the lesson of the war is almost completely forgotten. We are accustomed, in England, to being unable to raise sufficient foodstuffs for our use; yet the position of the world food-markets, the warnings that have been raised in the United States of America that that country within a few years may not be able to supply itself with food for its own requirements unless it enormously increases its powers of production, should arouse us to the need for developing our agricultural resources to the fullest extent. The antagonism between town and country is fundamentally senseless; for the town is the farmer's market and the country keeps the town alive. There should be a common interest between the two, and towns should be planned and extended to-day as in the past, having regard to their agricultural requirements. Yet the towns continue to grow, as they grew throughout the great periods of industrial expansion, as though they had no concern with agriculture, and as though, provided they extend their boundaries and increase their rateable values, it is no matter what happens to food-production. The townsman's interest in agriculture is his interest in his costs of living, and the steady covering up by builders of the agricultural land adjacent to towns is damaging to him, for it steadily raises prices. How many people realise that at one time Poplar provided a great part of London's food supply? So few that there is hardly anyone to object when the process that turned Poplar into slums is continued to-day, when the rich land of Essex close to London is being got ready for the builder.

§2

What is an agricultural belt? It is agricultural land in some direct and constant relation to a particular town. In a sense all towns or groups of towns have their agricultural belts. Even London has agricultural land upon which it depends, not only in the Home Counties, but on the plains of Canada and the Argentine. Indeed, in the largest possible aspect, the urban area of the world, considered as a whole, is surrounded by the agricultural belt of the world. Otherwise, how should we live? We live by virtue of the actual existence of land upon which food is grown. There could be no urban area at all, no urban industries, no commerce, no civilisation, until the inhabitants of the agricultural areas could produce not only enough food for themselves, but a surplus for those who did not produce food.

Yet for the purpose of a definition we cannot take agricultural land in general; we must take particular land, and the following is an attempt at a provisional definition of an agricultural belt: *An area of agricultural land surrounding a town, with which the town has direct and constant economic relations.*

§3

Let us look at this definition in the light of the two garden city schemes at Letchworth and Welwyn; for there the theory of the agricultural belt is put into practice. The agricultural belts of these two towns are the areas within their influence. It is a mistake in this connection to confine attention to the land that has actually been purchased by the garden city companies. That land forms part of the agricultural belt; it is the part upon which the garden city can exert most influence; but it is wrong to limit the idea of the belts to the areas actually in the possession of the companies, or even to the area of the particular local government units. The land at Letchworth possessed by the company as an agricultural belt extends to 3000 acres because the company happened to be able to buy the land; there was no other reason. At Welwyn the area is less than 1000 acres for exactly the same reason. The real agricultural belt at Letchworth, however, stretches to Arlesey in the north, to Hitchin in the west, to the neighbourhood of Royston in the east, and to Stevenage in the south. It is the whole of the area contiguous to Letchworth, which is influenced

by it, has economic relations with it, and within which there is a constant flow of people to and from the town. At Welwyn the real agricultural belt runs towards St. Albans, Luton, Hitchin, Hertford and Barnet, to the point, indeed, where the agricultural belts of those towns begin.

The distinction between the garden city and other towns is not that garden cities have agricultural belts and other towns have not, but that in the garden city the agricultural land belongs to the unity of the town, is preserved, maintained and developed equally with any other part of the town; while in other towns (except in the small old-fashioned country towns) there is no community of interest between the surrounding agricultural area and the town itself, the country being merely not-yet-built-upon land.

## § 4

The economics of the agricultural belt depend upon its purpose. What is that purpose? Fresh air certainly, æsthetic value certainly, food production by the inhabitants most certainly, otherwise the thing is useless. It is partly a "buffer state" between the town and its surroundings. The one thing it is not is a luxury.[1] Is the agricultural industry a national luxury? The suggestion is absurd. The underlying constructive idea of the garden city is that of uniting agricultural and urban interests so that together they may constitute a sound community; the agricultural belt is the means by which this unity is brought about. The essence of the thing is that the city should consist of a built-up centre of commercial and industrial activity, together with a surrounding stretch of country in which agriculture is maintained with all the resources of organised society—the dependence of town upon country and country upon town being clearly seen.

Agricultural belts are most obviously a means of producing a substantial part of the food supply of a town. So far as milk and dairy products in general are concerned, the agricultural area surrounding the town should be devoted to meeting the town's needs. Market-gardening, fruit, meat and other produce will depend upon the nature of the land, but the maximum production of the largest variety of commodities will

[1] Educationally and morally, fifty thousand acres of land contiguous to the towns . . . would be of greater value than a wilderness of museums.—*English Farming Past and Present*, by Rowland E. Prothero (2nd edition, 1917), p. 400.

certainly be an economy. The extent to which the town's demands can be met will depend upon the area of the agricultural belt, the suitability of the soil, and the skill and capital that are devoted to it.

## §5

The view of most agriculturists that agriculture is a purely rural matter with the parish as the unit of organisation will be replaced under the garden city system of rural belts by that of the town with its surrounding rural area, including the villages, as the unit of organisation. This should prove of great advantage to the farmer, relieving him of his social and economic isolation and bringing to his hand the facilities of town life. At present the isolation of those who work upon the land, the lack of amusement, culture and opportunities for alternative employment that they suffer, are a heavy handicap upon agriculture. The motor car and motor omnibus, wireless broadcasting and newspapers have mitigated the isolation, but only, it would seem, to arouse a greater longing for the delights and variety of city life. After the war the Government found it to be practically impossible to get disabled men to settle on the land. Even tubercular men would not go there; for men do not like village life, they want the activities of larger communities. The satellite town would bring the advantages of the town nearer to the countryman.[1] The farmer would be brought under the stimulus of the town and his industry would come into contact with urban industry. The business ability that is devoted to other forms of production would then be made available for farming also.

There is a sense in which the farming industry is exceptional. It operates by possession of a monopoly. That is to say, land, which is limited in amount, which cannot be increased, however greatly the demand for it may increase, is the means by which the farmer conducts his business. So long as he is in possession of it he excludes everyone else. This gives the farmer an advantage which, except to the extent that he is affected by foreign imports, reduces if it does not actually destroy all competition; but it also throws upon him a considerable

[1] The effect of the building of Letchworth upon the surrounding agricultural district, as we have shown in the second part of this book, has been to brighten up the whole country-side, and the agricultural population has been increased. One evidence of this is to be seen in the fact that the Hitchin Rural District Council has already built 420 new cottages in the villages for agricultural workers and is about to start on 200 more.

responsibility and makes it necessary for the community to take particular interest in the results of his work. As the farmer enjoys a monopoly, the community is bound to concern itself with his use of it. If a farmer fails to make the best use of his land it is of more serious consequence to the community at large than if any other producer is inefficient, and even though he may make a profit in spite of his inefficiency the loss to the State is none the less real. It is necessary that the land should produce as much as possible, and that all who are able to assist in or increase production should have access to the land; for products of the land are a vital necessity to the State. The interest of the State is not to get as many men as possible to work on the land, but as many men as are necessary for complete efficiency of production. It is true, of course, that work on the land is in many ways healthier than work in factories, but that should not lead us to argue that as many men as possible should be employed upon the land. If that argument held good it would be an argument against the use of machinery on the land and against all labour-saving devices in agriculture. It is, however, uneconomic to devote more labour to a desired end than is necessary, and all means for saving labour on the land, as elsewhere, must be used and encouraged. Of course in this matter there must be a certain latitude for individual taste. If there are people who prefer to plough with horse labour instead of the steam-plough, presumably they must be allowed to do as they please, so long as they do not demand that their preferences should become fixed upon industry as a national or even local policy.

It is possible, under the new conditions that might be brought about by the closer association of town and country, that the old type of farmer would go. Land might be worked by highly capitalised corporations operating over large areas, or alternatively by co-operative associations of individual farmers. At present the farming industry as a whole is under-capitalised and is conducted with a good deal less enterprise than urban industry as a whole. All who have studied the condition of agriculture are convinced that the industry is capable of immense expansion if it were better organised by individual effort, and stability given to it by some form of national action. A decisive step in that direction would be taken by bringing agriculture into more constant relation with other industry, which would be brought about by spreading urban communities in the form of new towns over wide areas of the country. If the towns were brought to the country-side

the whole character of the agricultural problem would be changed.[1] Farming is a business demanding skill, high technical training, initiative, and capacity for experiment, and such a business would gain enormously by having the town as the centre for its operations. Usually when other industry has been considered in connection with agriculture, it has been under its domestic forms. It has not been generally contemplated that manufacture and factory life may become factors in agricultural development; but in the garden city idea agriculture and industry are not thought of as being brought together through handicrafts or the growth of peasant industries. What is aimed at is that factory workers and owners should come to have agricultural interests, that men should work in the factory as well as on the land when they are so disposed; and that such a disposition should be encouraged. Further, there should be some connection between the demand for agricultural labour at such a time as harvest and the release of men for that demand from other industry. The squalid circumstances of the use of urban labour for fruit-picking, hop-picking, potato-digging, and so forth would not arise under methods of agriculture that were organised on an industrial basis. What is necessary is not only co-operation among agriculturists, but co-operation between the agricultural industry and other industries, and to this end the small town on the garden city model would contribute.[2]

## §6

In the small town it is possible for every house to be near enough to an allotment to make its cultivation practicable. Experience during the war suggested what an enormous advantage it would be if every family had a piece of ground from which to keep itself supplied with vegetables. The small town up to 50,000 could supply itself with a large part of its needs in certain vegetable products. Of course not every household in it would be able to run an allotment or would desire to do

[1] See two papers by Sir Theodore G. Chambers: "The Rural Problem" (*Journal* of the Farmers' Club, April 1914); "The Repopulation of our Rural Districts" (*Transactions* of the Surveyors' Institution, 1917, Vol. XLIX., p. 57).

[2] The so-called "green girdle," "Grüngarteln," advocated by Leberecht Migge and others in Germany, is a system of preserving definite areas of agricultural land adjacent to towns and their development by the inhabitants on a co-operative basis. It is an interesting contribution to the practical establishment and treatment of agricultural belts. See *Der Ausbau eines Grüngürtels du Stadt Kiel* (1922) and the periodical *Siedlungs-Wirtschaft*, published at Worpswede b. Bremen.

An interesting agricultural development in association with industry was established in Germany by the Hirsch Copper and Brass Works Company, Eberswalde. See *Der Neubau*, August 1924, for an account of this scheme.

so, but with many of the inhabitants working allotments there would be a certain amount of surplus produce. A central distributive agency, such as exists at Welwyn Garden City, would provide a means for the disposal of such surplus produce not only for the purpose of supplying those who have no allotment of their own, but to supply families with what they do not or cannot grow themselves. Some men have a special knack for growing certain vegetables which others cannot grow at all.

## § 7

The finance of an agricultural belt is not different from the finance of agricultural land-holding in general. There is, however, an economic difference in favour of such land, due to its forming part of a solid block of land, part of which is urban, held in a single ownership. If it pays anyone to hold agricultural land, it pays those who hold it adjacent to towns; for there is a well-known economic fact that land tends to rise in value for agricultural purposes the nearer it is to centres of population. The effect of the distribution of towns throughout the country over a much wider area than at present would be to increase the value of the agricultural land in their neighbourhoods as agricultural land. What gives value to land is population, and the distribution of population in satellite towns would stimulate agricultural production and thereby increase agricultural land values.[1]

There is nothing in the conditions applying to an agricultural belt in the possession of a garden city company to differentiate it from other agricultural land, except such differences as are to its advantage. It has been suggested that garden city companies cannot afford to hold agricultural land.[2] If they cannot afford it nobody can. It has also been suggested as an argument against agricultural belts that small-holdings cannot now be developed without great losses. But there is no necessary connection between the development of small-holdings and the maintenance of agricultural belts around towns. Those belts must obviously be turned to their best economic use agriculturally. To get the full value out of an agricultural belt needs time and capital; the texture of the

[1] See what Marshall says on the effect of increase of population upon land: " . . . the cultivator gets good markets in which to supply his wants, as well as good markets in which to sell, he buys more cheaply while he sells more dearly, and the conveniences and enjoyments of social life are ever being brought more within his reach."—*Principles of Economics*, Bk. V., Ch. XI., § 1. *Cf.* also Bk. IV., Ch. III., § 6 of the same work.

[2] See "The Agricultural Belts of Garden Cities," by Sir H. Trustram Eve (*Town-Planning Institute Papers*, Vol. VII., p. 55). An inconclusive and sketchy paper, but interesting as one of the rare contributions to this subject.

soil may need to be improved; transport, buildings, plant and labour are required as well as readiness to accept new ideas. The existence of such a belt relieves land in the neighbourhood of towns from the uncertainty that hangs over "accommodation land," giving it, indeed, an increased agricultural value by giving increased security to those who cultivate it.

If a garden city company has purchased agricultural land above its agricultural value; or if, having purchased such land at its true value, it fails to manage it properly, the company will suffer financially, just as it will if it mismanages, or is unfortunate in, any other part of its business.

## § 8

A function of the agricultural belt is to be protective of the amenities and economic position of the town, and in this respect its financial advantage is considerable. The belt surrounds the town in the same way as a garden surrounds a house, and the amenities and actual commercial values of the town benefit exactly as the house does from its garden. That is why a garden city can bear the expense of an agricultural belt, or, in other words, can afford a lower annual return on its agricultural land than it receives from its urban land. By contributing to the amenity value of the town sites, through which the property in the town may retain and even increase its value, the agricultural belt is economically justified.[1] A further point worth making is that without the belt the land values created by the population of the new town would tend to spread themselves over the surrounding land. The effect of that would be to allow some part of the increment of value to escape into other hands and to encourage parasitic development on the outskirts of the town. So that the wider the agricultural belt the better.[2]

## § 9

In the finance of a garden city enterprise the cost of the agricultural land to the extent that the price paid for it may be in excess of its agricultural value should partly be charged against the urban area. At Welwyn Garden City, for example, a proportion of the cost of the agricultural belt is included in the costs of the developed land. Instead of the agricultural land being held at the price actually paid for it, or

[1] Marshall points out that natural beauties adjacent to a town possess a direct money value, though "it requires some effort to realise it."—*Principles of Economics*, Bk. IV., Ch. III., § 7.

[2] On this question refer to Part IV., Ch. II., §§ 5 and 6.

at the average price of the whole estate, it should be held at a figure upon which the net income of the land will produce the average return which the garden city undertaking has to pay upon its capital. For instance, if an estate has been purchased at an average of £40 an acre, the net income being 3 per cent. and the garden city company being financed on the basis of 5 per cent., the cost of the agricultural land should be taken at £24 per acre, being the amount on which the net income yields 5 per cent., the balance of £16 per acre being treated as part of the cost of the urban land. It should not be overlooked, however, that the value of the agricultural belt will be much greater than ordinary agricultural land, and that once the town is developed the land, or much of it, is almost certain to exceed a value of £40 per acre. That value would not, however, exist until the town had developed a considerable population, so that in the beginning some provision must be made for the burden that it will cause.

§ 10

Ideally, the entire agricultural belt should be held in one hand, together with the urban centre. A garden city company should be able to purchase the whole of the land affected by its enterprise. But that is hardly practicable, and so long as there is sufficient land to surround the urban area with an effective belt it is not necessary. The important thing is that the design and character of the town, the preparation of its town-plan, are profoundly affected by the agricultural land surrounding it. Agricultural belts essentially belong to the idea of the limitation of the size of towns. The land is not held temporarily for agricultural purposes, but of set purpose and permanently. Some adjustment of uses and areas within moderate limits may be considered, but the main lines are intended to be maintained. This is an important consideration and far-reaching in its bearing upon the town and its industry as well as upon agricultural developments.

§ 11

The area that is necessary for an agricultural belt depends upon circumstances. The two main functions of the belt, food supply and economic protection, have to be kept in mind. Not always, perhaps only seldom, will it be possible to secure an area suitable in extent and character to meet fully the food demands of the town, and it is not necessary to make the attempt to do so; but it is desirable that the belt should

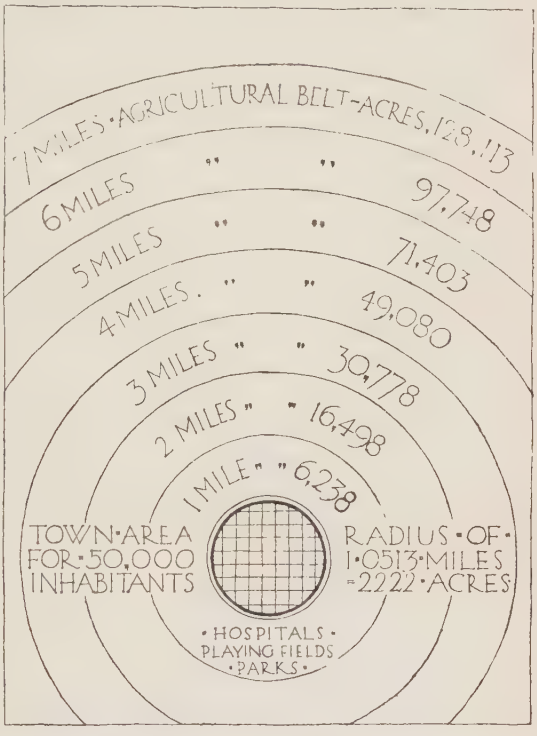
make a substantial contribution to the food supply. The land should be used for the purpose for which it is best suited. If for any reason it can only be used as parkland, or for grazing cattle, or as moorland, if it is bog or marsh or rock, then it will yield very little food. In practice, however, most sites will be found capable of producing a fair proportion of the milk and dairy produce required, together with a certain amount of fruit and vegetables. As it is obviously desirable, other things being equal, to produce, for instance, milk for the town in the agricultural belt to save costs of transport and waste and to ensure a fresh and clean supply, how many acres would be required for that purpose? It is not easy to arrive at an exact figure, for conditions of farming and farming practice and results differ materially. If we assume that the land is suitable for arable dairy farming, that each cow requires 2·6 acres and will give an average annual yield of 620 gallons,[1] and if we assume further that the daily consumption of liquid milk is approximately half a pint per head [2] of the population, then a population of 50,000 would need 3125 gallons of milk per day, which would require an area of 4784 acres for liquid milk only. A further area would be required for milk for cream, cheese and other products, for poultry, pigs, vegetables, fruit, etc.; but the area required for these purposes is relatively smaller than for milk.

An average minimum depth of one mile is desirable so as to maintain a belt distinctively rural in character, which will at the same time separate the town from other building development. If the site of the town is partly bound by the sea or by hills or some other delimiting natural feature, a protective belt will be provided by that means; but leaving out of account any such natural features, the extent of agricultural land needed can be expressed in diagrammatic form. The area occupied by a town of 50,000 inhabitants, on a basis of 4·5 persons per house and 5 houses per gross acre, would be 2222 acres. Such a town in circular form would have a radius of 1·0513 miles. An agricultural belt of one mile around this town centre would occupy 6238 acres, a total of 8460 acres, which we may regard as a satisfactory minimum for an ideal garden city scheme. Letchworth has a town area of 1482

[1] These figures are based on *Dairy Farming on Arable Land*. R. Silcock and Son, Ltd., Liverpool. This volume contains five essays on the subject, and the averages have been taken of the figures given in them.

[2] In Welwyn Garden City the average daily consumption of milk per head is three-fifths of a pint; this seems to be high. Lord Dawson of Penn, *Report of Proceedings of the National Milk Conference*, 1923, p. 39, says that the average daily consumption of milk per head in this country is one quarter of a pint, in the United States three times as much.

acres (for 33,000 persons) and an agricultural belt of 3066 acres, a total of 4548 acres. Welwyn Garden City has a town area of 1770 acres (for 40,000 persons) and an agricultural belt of 608 acres, a total of 2378 acres. The agricultural belts of both these schemes, especially that of Welwyn, are inadequate; but it should be remembered that the real agricultural belts of these towns extend far beyond the land actually in the possession of the garden city companies. When the towns are fully built an extension of the agricultural belts will be required, and it may be anticipated that by that time the towns will be able either to acquire the additional land or exercise such control over it as may be necessary to preserve its agricultural character. The accompanying diagram shows the area of land comprised within belts of from one to seven miles in depth around a town of 50,000 inhabitants. If towns could be constructed on ideal plans at distances of four miles apart, each town would have an agricultural area of about fifteen square miles; the majority of the workers on the land would be able to live in the towns, and the workers who had to live actually on the farms would be close enough to the towns to enjoy all the facilities of town life. In the agricultural belts could be placed hospitals, playing-fields and parks, which would be an economy.


7 MILES · AGRICULTURAL BELT-ACRES, 128,113
6 MILES " " 97,748
5 MILES " " 71,403
4 MILES " " 49,080
3 MILES " " 30,778
2 MILES " " 16,498
1 MILE " " 6,238
TOWN · AREA FOR · 50,000 INHABITANTS
RADIUS · OF · 1·0513 · MILES = 2222 · ACRES
· HOSPITALS · PLAYING FIELDS · PARKS ·

## § 12

The extent to which existing towns have agricultural land within their areas is hardly realised, yet many towns could, if they would, acquire at least substantial instalments of agricultural belts by means of town-planning schemes within their own areas. In a return prepared by the

Local Government Board in 1913[1] the areas of agricultural land are given within the municipal boroughs and other urban districts in England and Wales. Agricultural land as defined in section 9 of the Agricultural Rates Act, 1896, means any land used as arable, meadow or pasture ground only, cottage gardens exceeding one quarter of an acre, market-gardens, nursery grounds, orchards, or allotments, but does not include land occupied together with a house as a park, gardens, other than as aforesaid, pleasure grounds, or any land kept or preserved mainly or exclusively for purposes of sport or recreation, or land used as a racecourse. At the date of the return there were 1136 municipal boroughs and other urban districts, and information was obtained from 1076. The total area of these districts was 3,884,139 acres, of which nearly two-thirds, namely 2,533,035 acres, was agricultural land. Some of this land included as agricultural land is mountain or moorland. The acreage of agricultural land varied from 22,000 acres (Holbeach) to 7 acres (Stow-on-the-Wold), and "leaving out of account two or three very exceptional cases where the extent of agricultural land in the district is small and the valuation is very high, the acreage value in the several urban districts varies from £4 or more to less than 1s." The following are examples of towns with a population in the neighbourhood of 50,000 persons:

| Town | Total Area (including Agricultural Land) | Area of Agricultural Land | Urban Area[2] | Population (1911 Census) |
|---|---|---|---|---|
| Aberdare | 15,183 | 13,965 | 1,218 | 50,830 |
| Barnsley | 2,385 | 1,064 | 1,321 | 50,614 |
| Carlisle | 2,025 | 800 | 1,225 | 46,420 |
| Cheltenham | 4,726 | 2,659 | 2,067 | 48,942 |
| Colchester | 11,355 | 9,009 | 2,346 | 43,452 |
| Dewsbury | 6,720 | 4,299 | 2,421 | 53,351 |
| Dudley | 3,536 | 1,628 | 1,908 | 51,079 |
| Eastbourne | 6,833 | 4,075 | 2,758 | 52,542 |
| Exeter | 3,168 | 1,272 | 1,896 | 48,664 |
| Gloucester | 2,315 | 791 | 1,524 | 50,034 |
| Keighley | 3,902 | 2,551 | 1,351 | 43,487 |
| Luton | 3,134 | 1,421 | 1,713 | 49,978 |
| Oxford | 4,719 | 2,135 | 2,584 | 53,048 |
| Swindon | 4,265 | 2,624 | 1,641 | 50,751 |
| Wakefield | 4,059 | 2,624 | 1,435 | 51,511 |
| Watford | 2,064 | 474 | 1,590 | 40,939 |

[1] *Returns* showing for the year 1911–12 with respect to each Municipal Borough or other Urban District in England and Wales the area in acres of the Borough or District and of the Agricultural Land. (H.M. Stationery Office, 1913.)

[2] Included in this area is land not covered by the definition of agricultural land.

The ability of these towns to preserve their agricultural land (much of which has probably gone since 1913) is restricted by vested interests of various kinds and by the fact that some of the land has a prospective building value. But the outskirts of the towns could be preserved in many instances if the local authorities were alive to their opportunities. In garden cities, however, the matter can be dealt with before vested interests have entrenched themselves.

## § 13

Among other services that the agricultural belt performs is the maintenance of tidy, orderly and decent surroundings to the town. Few things are more saddening than the disagreeable accumulation of temporary buildings, heaps of rubbish, and vacant building sites that disfigure the edges of almost all our towns. The preservation of natural beauties in an unspoiled, fresh condition around our cities is one of the urgent problems of the time. Woods, parks, hills and streams, old villages and country towns make up the charm of the country-side. To lose them is to lose much of the beauty that nature and our forefathers have left us, part of a precious heritage that is at the very heart of love of home and country. The system of satellite town development is a means by which that may be preserved. But it is not merely that these special beauties should be protected, but nature itself in its homely aspects, farms, homesteads, cornland, pasture and market-gardens, should be maintained while our cities grow. That can all be done by making rural belts part of the normal structure of towns.

# CHAPTER IV

## SOME LOCAL GOVERNMENT QUESTIONS

The country sprinkled with small, compact, clean, airy towns, each surrounded by its belt of pasture and arable land.—J. C. SQUIRE.

### § 1

LARGE questions of local government administration will undoubtedly arise in connection with regional development and the building of satellite towns. Local government machinery is not adequate for the duties that have been thrust upon it since it was constructed in the middle of last century, and the areas within which services are performed need enlargement and adjustment. The conflict between the great cities on the one hand and the small towns and county authorities on the other is shown in the evidence before the Royal Commission on Local Government. The problem is vastly difficult, for many vested interests have grown up with the growth of population and local administration, and the end of it may probably be the setting up of regional or provincial authorities to cover large areas. The problem does not, however, directly concern us here, except to note that attempts by local authorities to combine for the purpose of subjecting local town-planning schemes to some kind of regional control will if successful be a move in the direction of such new authorities with definite statutory powers; while if they are not successful the failure will demonstrate the need for such authorities all the more.

The building of satellite towns need not wait for these changes in local government, which, however inevitable they may seem and however beneficial, will take a long time to realise. By adopting the methods that have been discussed in the preceding chapters, and by making use of such information and machinery as already exists, satellite towns could be developed without injury to any future changes in local government areas that might be made. Indeed, it is conceivable that if a general system of satellite town development were put into

operation the enormous pressure that is now being felt by local authorities in connection with housing and town-planning schemes would be eased, and at the same time a way would be indicated in which the reform of areas for rating, administration and other purposes could most simply be effected. Many of the problems that at present exist in all large centres of population are due to the attempts to deal with demands for housing and the necessity for town-planning, which, owing to the lack of co-ordination among adjoining bodies, cannot properly be handled. The establishment of a central organisation through which large development schemes could be undertaken would tend gradually to relieve the local authorities, not of their responsibilities in these matters, but of the congestion of business which leads to the danger of hurried decisions and the initiation of ill-considered schemes. The new central body proposed in this book for the supervision and finance of garden city undertakings could do an immense amount in co-operation with the local authorities to get satisfactory and adequate schemes put in hand on the most suitable sites. In the actual development of garden cities a large part of the problems that now exist would be solved by such a body, which would, as we have suggested, have powers to acquire land for the purposes of the schemes, and to build and finance workmen's houses. These powers would in themselves go a long way to overcome the main difficulties that the existing garden cities have had to face.

§ 2

The local government questions that will arise will depend upon whether the new towns are developed by local authorities, and if so by which local authorities, or by some form of controlled private enterprise. If a city corporation were to seek to establish a satellite town outside its area it would immediately come into peculiar relations with the local authorities in the area. The rural authority or authorities in which the site lay would possess rating powers in the new town as well as sanitary and other duties; the county council would also have rating powers and duties in connection with education, police and so forth. These authorities might be reluctant, or even definitely unwilling, to discharge such duties, on the possible ground that the provision for a population transplanted from a great city was no business of theirs. On the other hand, if the city sought to get the area of its satellite incorporated within its own boundaries, the opposition of the rural and county

authorities to the proposal, which would mean loss of area and rateable value, would be certain. The difficulties are very real, and, unless the outside authorities were disposed to assist the scheme or were willing to allow the site to be detached from their areas, almost insuperable. If, however, those difficulties were removed, the local authority undertaking the scheme should encounter no further difficulties beyond those implicit in so large and complex an enterprise as the establishment of a new town, all of which are capable of being overcome.

## § 3

In an earlier chapter the writer suggested that county councils themselves were the best form of local authority for undertaking the establishment of new towns. They have, indeed, everything to gain by so doing—increase of rateable value, increase of prestige, and a defence against the encroachment upon their areas by the county boroughs. The present position of the counties in relation to the expansion of the county boroughs is by no means satisfactory, and unless some change takes place will almost inevitably result in the disappearance of the counties as they now exist. The great cities must extend their areas if they continue to grow as they have grown in the past, and the counties will not be able to prevent it. The only effective alternative is for a new system of town growth, that of the satellite town, to be brought into being, and the county authorities can themselves play a part in creating that system.

The position of the counties around London is such that their only prospect of survival is to stop the solid growth of the metropolis. The establishment of a new system of local government for London and the adjacent area is but a matter of time, in spite of the impasse which has been arrived at in the attempt to settle the question. Unless the counties themselves adopt measures for dealing with the further increase of population in the area they will have no means of resisting the claims of any new authority that may be set up. Hertfordshire and Essex are counties with large vacant spaces, on which, by means of regional planning and a suitable development organisation, an immense population could be housed, without land being lost to these counties, with no possible extension of London into them, preserving a large element of their valuable rural characteristics, and with every prospect of great additions to their wealth and standing. Garden cities as satellite towns for Hert-

fordshire and Essex are the weapons for those counties against the monster of London. These county authorities should have the capacity in their officials and in the personnel of their membership to initiate and carry through a scheme of the kind, large and ambitious though it be.

## §4

Certain rating and other questions of local government have been discussed in earlier chapters. Among other matters that arise are the following:

1. For each garden city a new parish needs to be created with a parish council, if the area of the garden city is within more than one parish. This can be done on the application of the rural district council to the county council under the Local Government Act. It might be advisable to give the Minister of Health power to create such new parishes on the application of the proposed garden city commissioners.

2. The county education authorities will be required to provide schools.

3. Powers may be necessary to enable gas, water and electricity undertakings to be formed, and for laying mains along or under public roads for the purpose of such undertakings.

4. Local bye-laws may need to be revised.

## §5

The association of the inhabitants of new garden cities with the body responsible for the development of the schemes should be provided for in some way. At Letchworth there is no direct connection between the Garden City Company and the district council; but regular meetings are held between the directors of the company and a committee of the council to consider questions of development. At Welwyn Garden City the local authority is given actual representation on the board of directors of the company. These representatives receive the reports, etc., and deal with the business of the company in the same way as other directors. They also report regularly to the council on the work of the company. Neither of these methods is, in the opinion of the present writer, satisfactory. At Letchworth contact between the two bodies is not sufficiently close; at Welwyn the representatives on the

board act as directors, taking the responsibilities of directors, though they have no responsibilities to the shareholders: creating a fusion of interests between representatives of one body and the members of the other body rather than association or co-operation between the two bodies as such. Although the system has worked hitherto with no serious difficulty, it does not seem sound in theory and might easily break down in practice. A better method would be for a joint committee to be set up composed of equal numbers of representatives of the local authority and the board of directors of the company to discuss questions affecting the town. The joint committee could be given certain powers, and could act freely as all its members would be on an equal footing. Meetings would be held regularly on fixed dates, say once a month, and reports presented by the representatives to their respective bodies. This would, in the writer's opinion, be an effective means of co-operation between the two bodies; it would enable questions to be thoroughly discussed, and would provide for a real understanding of the different points of view.

The importance to the inhabitants of a system of co-operation between the local authority and the garden city company becomes greater as the development of the scheme proceeds; for by means of it real economies may be effected in administration, and a considerable extension of municipal activity be made possible. There is no gain in efficiency and much loss of economy in the local authority and the company having duplicate secretarial, accountancy, engineering, and surveying staffs, each doing precisely similar work. By co-operation with the company the local authority should be able to get its work done better and at a much lower cost than by any other means; for it would get the benefit of a highly-trained staff at two-thirds or one-half the cost that might normally be incurred, with a correspondingly beneficial effect upon the rates. But the co-operation between the two bodies should be much closer than that. Their interests are identical in the growth and well-being of the town, and by working together they should be able to deal with a large number of problems with satisfactory results, and at the same time unite in making the town a desirable place in which to live.

Much can be gained for a garden city scheme as a whole by friendly relations between the company and the inhabitants individually. It is not to be expected, of course, that everybody will always be satisfied, and there are generally to be found people who take pleasure in arousing

controversy for its own sake. The company has to keep in mind its obligation to make provision for the scheme as a whole, while the inhabitants, or some of them, may take a more restricted view. In practice, judging from the experience at Letchworth and Welwyn, there is little likelihood of any real divergence of view being maintained; for the interests of all are fundamentally united.

As the population increases and the local authority adds to its status and powers, the influence that it will be able to exert will also increase. In this connection it is well to remember that the constitutions of both the Letchworth and Welwyn garden cities provide for the freehold of the estates being taken over by the local authorities concerned at some future date. That date may be assumed to be the time when the schemes have been substantially completed, and when the local authorities are in a position to accept the financial obligations involved. There is no compulsion upon either of the garden city companies to transfer their property to the local authorities unless they so desire, the powers being entirely optional; but it is likely that when the time comes for such a transfer to be practicable the garden city companies will be favourable to the proposal, providing that it appears to be in the interests of their respective schemes that it should be done. The responsibility for the schemes being carried out and maintained in accordance with the original idea of the promoters lies upon the garden city companies, and it would undoubtedly be wrong for them to divest themselves of that responsibility without adequate guarantees for the maintenance of their schemes.

To enable the local authority to take over the freehold of a developed or partially developed garden city, it would probably be necessary for special powers to be obtained from Parliament. There should be no essential difficulty in securing such powers, providing the garden city company concerned were agreeable. An alternative to the actual transfer of the property to the local authority would be for the local authority to absorb the garden city company, which could be accomplished by taking over the capital of the company (which would also require legislation). The advantage of such a course would be that the local authority would then be able to use the powers of a joint-stock company as well as its normal powers as a local authority, which might be worth acquiring. Or, instead of absorbing the company, the local authority might make an arrangement with the garden city company under which, so long as the fixed interest or dividend upon the capital

was paid, the actual administration of the company might be brought largely or wholly under the control of the local authority. Or, finally, the garden city company and the local authority might continue to exist side by side, without absorption of one by the other. This might enable the town to secure permanently the benefits of co-operation between the business management of the company and the local authority administration. Out of such co-operation might emerge a system of town-management new to this country. The conduct of a town's business is already a highly expert matter, and in a garden city, largely free from existing municipal tradition, the expert and specialist conduct of its affairs might be greatly developed. The fact that the garden city company operates upon a fixed dividend basis eliminates from it the merely speculatively commercial features of private enterprise, and establishes a position from which the company can properly regard public convenience and utility, and makes effective co-operation with the local authority possible. The subject is highly interesting, and worth pursuing.

Whatever course is adopted, it is practically certain that the local authorities concerned will come to have a large interest in the garden city companies because of the surplus revenues of the companies, of which, if the companies are properly conducted, they will get the advantage.

## §6

It is of some importance to remember that under the garden city formula the local government areas of towns should include agricultural belts. This will require a new definition of local boundaries as it becomes generally applied.

It has been pointed out on various occasions in connection with discussions on local government that a rural district is an artificial creation for which there is no sort of local patriotism. There is no doubt that if we could accept the garden city idea of the small town as the agricultural centre, extending urban boundaries and as far as possible abolishing the rural districts, there would be a great gain. It may be objected that townsmen do not understand the conditions and requirements of agriculture, that the interests of farmers and labourers are not identical with those of manufacturers and artisans; but a large part of the economic interests of all workers in industry are common, and town and country have a common interest in the health, well-being and economic security of all who live in them. That is essentially what

is aimed at in the garden city idea, to abolish this false economic and social distinction between townsmen and countrymen. In the great city, with its large congested areas remote from all rural influences, and in the sparsely peopled country, remote from all the active life of the town, differences exist it is true, but wherever they are observed and analysed and their results measured, they are seen to be great evils.

## §7

What provision will be necessary for the continued growth of satellite towns? Towns that are living will grow, and though their growth will in some measure be confined to rebuilding and reorganisation within the town area, that will not be exhaustive. We must therefore contemplate the extension of the town outside its agricultural belt, and though the extension may be regarded in the first instance as a suburb or a village, it must provide for full development as a subsidiary or even an independent unit.

Industry may be established in the town, and if it prospers will grow. It may grow so vigorously that it may become too large for the town. In that case it must be split up and future growth become a nucleus for a subsidiary town. When industries become large, they become departmentalised. Is there any reason why departments should not be separated? Is there any limit beyond which a single factory becomes too large for the best economic results? Mr. Henry Ford, the American motor-car manufacturer, seems to answer the second question in the affirmative.[1] Anyhow, the question has to be faced that a single factory may become too large, if not for its own sake, for the sake of the town.

Towns that have reached the limit of their maximum population must provide town-planning schemes for extension outside their rural belts. And suppose building goes on beyond that belt? Suppose, for example, someone puts a works there and builds a small single-industry village. If it is beyond the agricultural belt, it will be beyond the towns' boundary. Ought not the town to have something to say in a matter of this sort? Here we come again to the necessity for regional planning and a regional authority. There is no escape from that conclusion.

[1] See *My Life and Work*, pp. 190, 191.

§8

Satellite towns built around a great city would have economic and other relations with that city; they might even, as we have suggested, have local government relations with it. Should they not have relations with each other? It is hardly conceivable that a number of such towns established near a common centre would not have common interests, and seek to combine those interests. This indicates a direction in which a further extension of local government may take place. If a series of satellite towns was established in Hertfordshire, for instance, through the instrumentality of the county council, their common interests would be expressed to some extent in the county council. Along these lines, perhaps, some interesting developments in local government might be expected.

# CHAPTER V

## TRANSPORT AND INDUSTRY IN CONNECTION WITH SATELLITE TOWNS

In order to prevent overcrowding in the great cities, with consequent congestion of the traffic, the Ministry of Transport must take a far-sighted view of the problem of the urban worker, and in conjunction with the Ministry of Health it will be its duty to encourage self-contained industrial centres away from the large congested areas of our present large towns.—Statement as to Railways issued by the Ministry of Transport, April 1920.

### § 1

THE growth of transport has meant above everything else the growth of the great towns. An examination of the maps of town growth shows the expansion of population along the lines of new highways and new railways, so that the method of town expansion which is most common and still persists is first the building along the roads and railways, afterwards filling up the intersecting wedges of land. The congestion of traffic in the great towns which has thus been brought about has led to more and better transport, which in turn has led to still greater congestion, and to-day there is hardly anything more perplexing in the great cities than their overwhelming traffic problems. The more means of transit are provided, the more people make use of them and the greater the crowds become. This has been found true in London (where the Report of the Royal Commission on London Traffic of 1905 is a monumental forecast of the present traffic difficulties), true also in Paris, in Berlin, in New York and elsewhere. In London there is now an Advisory Committee on Traffic (set up under the London Traffic Act, 1924) covering the Home Counties as well as London itself, which is perhaps a beginning towards a more comprehensive treatment of the traffic problem than it has yet received.

Unfortunately it is not perceived that transport could be employed to get population away from the centres of congestion. Many people, it is true, live at great distances from their work; they go out of the congested city to sleep, but return to it again the following day. This

further complicates the traffic problem.[1] What is wanted is something to reduce the crowds, to get people to travel less, or at any rate to get multitudes of them to travel in a different direction from that which they at present take.

It is not, of course, a matter of passenger traffic congestion only, but of goods traffic too. The movement of goods to and about the great industrial centres is no less a problem that requires simplification. Just as too many people come into the cities, so too many goods come there; and there is much movement of goods from railway depôt to factory, from factory to warehouse and from warehouse to railway depôt or wharf, often over long distances and almost always through congested streets. That arises because the cities were not laid out and the railway facilities, markets, docks, and factory sites were not designed as a whole on any prearranged plan. Conceivably, if London or New York could be entirely replanned and rebuilt from the beginning to accommodate their present industry and population, gigantic cities could be made that would possess convenience and economy; but the cost would be fabulous and the practical difficulties would be insuperable. Even then there would be some limit of capacity beyond which convenience and economy could not be enjoyed; the cities would not be capable of indefinite extension.

§ 2

The point to which we have come in our modern city life is that some means must be found, if our cities are to maintain their maximum utility, and for the sake of industrial efficiency and social health, of reducing the congestion of population and industry within them, and just as the growth of transport and mechanical power created the industrial city, so to the proper organisation of transport and power may we look for the revolution in methods of city development.

A regional study of the problem, in which areas of low population density with small traffic facilities are brought under review at the same time as areas of high density and full facilities, may lead to new lines of

[1] "You must bear in mind that a new situation has arisen during the past few years. Not long ago it was considered that fifty miles was about the limit of the distance for anyone who wished to come up to his work to London daily. Now that is all changed. Many people live sixty, seventy, or eighty, and even on to one hundred miles out and come to their work daily in London. They all want, not unnaturally, to be in London and to leave London at the same time, and also all want non-stop trains from their particular station. As any line can only take a certain number of trains, and residents at intermediate stations consider not unnaturally that they have as much right to fast trains as coast towns, you will understand that the situation is not an easy one to handle."—Hon. Everard Baring at the annual meeting of proprietors of the Southern Railway Company.—*Times*, 25th February, 1925.

thought.[1] The satellite town, as it has been presented in this book, provides a centre of industry and social activity some miles away from the main centre of the great city, and as such tends to keep a population within its influence and to attract traffic to it. The method of suburban development with which the world is familiar does not do that. The suburb depends immediately upon the city, and its life rests upon the morning flow of population and the evening ebb back again. If each suburb had its own separate lines of communication with the city, perhaps the problem would not be so serious; but suburb connects with suburb, so that the moving mass of population increases and swells as it approaches the city. Satellite towns would no doubt send some proportion of their populations to the centre, as Letchworth and Welwyn Garden City as a matter of fact do; but being centres themselves, with their own industries, the greater number of their inhabitants would not need to engage in daily travel at all, and there would be a considerable movement of population into the towns from the surrounding country, as there is, indeed, to both the garden cities.

## §3

Transport is essential to satellite town development, and one reason why the proposal was made in an earlier chapter for the establishment of a Garden Cities Commission was to enable a definite system of road and railway development to be worked out. The experience of Letchworth and Welwyn Garden City has been that those interested in transport have not appreciated the significance of these towns. The railway companies, concentrating their attention upon the profits of their long-distance traffic and the enormous problems and increasing unprofitableness of their suburban traffic, have not realised what could be accomplished by the lateral development of their services and the turning of the tide of traffic from their congested termini. One reason for that is perhaps that the railways in England have never had an interest in land development. They have never perceived, therefore, how land may be laid out and population attracted to it in such a way as to benefit their undertakings. The exception to this is the London Metropolitan Railway, the proprietors of which, through subsidiary companies, have for some time been taking advantage of electric railway

[1] See *Les Transports en Fonction du Plan Régional*. By Raphael Verwilghen (Report of International Town-Planning Conference, Amsterdam, 1924, Part II.).

development on the outskirts of London. Mr. R. H. Selbie, then general manager of that railway, speaking a few years ago, said:

> Under the present general law a railway company is only entitled to purchase and hold such land as it requires for the purpose of its undertaking. When a new line is projected, the company making it may only purchase and retain such an amount of land as is required for the actual running lines, stations, sidings, etc., and the whole of the betterment in the value of the adjacent areas of land created by the coming of the new railway accrues to the owners of the lands who, as a rule, have contributed nothing to the making of the line. It is not likely that any new railways will be made in this country for some time to come, but if the principle were admitted of a railway company being allowed to hold and deal in land and property in the vicinity of the line for the benefit of the undertaking, it would be quite practicable for companies to acquire such lands for the purpose of developing them in building estates, garden villages, etc. Such operations, judiciously conducted, would not only be profitable *per se*, but would materially assist the traffic receipts of the railways, the latter being, of course, the main object in view.
>
> Every railway company of any size has already the organisation necessary for dealing with estate development. In addition to the personnel in architect, engineer, estate agent, solicitor, etc., a railway company has the means of purchasing materials, etc., in the best markets, of advertising the estates and houses on its stations and rolling-stock, and of arranging its train services in such a manner as to keep just ahead of the actual needs of the traffic. As trade is said to follow the flag, so traffic invariably follows facilities, and a development department of a railway company, working in close touch with the operating department, should form a most effective combination, and should be an important factor in the prosperity of the concern.

It would not, however, be wise to leave land development in the hands of the railways, for there are other questions involved than those of the profits of land speculation and railway dividends, and the developments along the London electric railways, as "Metroland" and the new Edgware tube extension show, obviously need to be made subject to a regional plan, and the principles of town-design.

Professor A. C. Pigou refers to the responsibility of those who control transport charges as affecting concentration of population.[1] It is not, however, merely in connection with railway tariffs, but also in the provision of station and other facilities, that much can be done. Both Letchworth and Welwyn Garden City would have gained enormously had the railway company actively co-operated in their development, and provided in advance the facilities that were needed to bring population and industry to them.

## § 4

In this matter of transport the planning and construction of arterial roads is of leading importance. Hitherto, the development of those roads has proceeded on the assumption that the present system of city expansion is certain to continue. One consequence of this is that they

[1] *Essays in Applied Economics*, pp. 110–112.

are actually encouraging the straggling, disorderly growth of the cities. The land through which they run is bought up and disposed of for building purposes almost as quickly as the roads are made.[1] The present position, indeed, constitutes a scandal, and is evidence of a lamentable lack of foresight in those responsible for it. These great highways, constructed at enormous national cost, are intended for traffic, and it seems reasonable that steps should be taken to keep them free for that purpose, and prevent their use for mere building development. Sites for new centres of population should be selected, purchased, and laid out in conjunction with the planning of the roads,[2] and building on the line of the roads should be prohibited between those sites. Welwyn Garden City provides an example of what should be done; for the company has refrained from building on the Great North Road, and has so developed the town that that road has been kept on the outskirts as a through traffic route simply.

It is clear that the establishment of satellite towns as a recognised system of town extension would provide a great field for transport development of all kinds. Roads and railways would be required from the central city to the satellite communities and between those communities themselves. Thus an entirely new direction would be given to transport development, and perhaps a more profitable direction than it is following at present.

## § 5

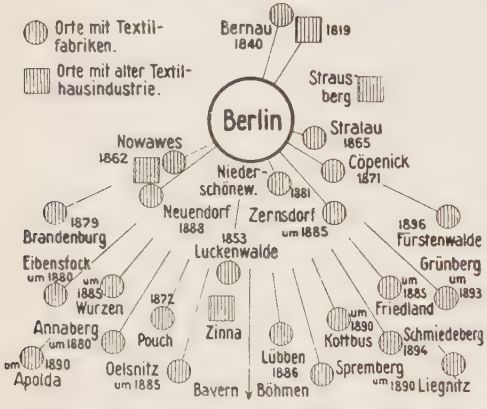
The attempts of industry to escape from the restrictions and congestion of the cities by building factories on the outskirts are evidence of the unsatisfactory conditions of the cities from the industrial point of view. A survey of the industries in any large town will show that a large proportion of them are working under the most cramping and inconvenient conditions, without proper transport, in buildings that are utterly unsuitable, without adequate light and air. It is amazing that manufacturers are content to suffer such handicaps. Some, no doubt, though conscious of the disadvantages under which they work, are

[1] The same thing happens with railway extension; the construction of the new "tube" to Edgware, outside London, provoked land speculation on a large scale.

[2] "The grant for the new roads should include the purchase, if not of a continuous belt along each side, at least of blocks of land. . . . These new roads, if we drive them (as we ought to drive them soon) between the main points of the island, will, unless some such scheme is adopted, make a direct and immediate present of millions to the chance owners of land upon their trajectory. It would be a gross case of endowment at the expense of the community."—Hilaire Belloc, *The Road* (1923), pp. 204, 205.

unable to help themselves. Many have probably never fully counted the cost of working in an unsuitable environment.

In Great Britain, Germany and America, indeed in all industrial countries, industries tend to leave the cities when they can. The accompanying diagram, prepared by Dr. R. Heiligenthal, shows the movement of the textile industries from Berlin.[1] Other industries, such as boot- and shoe-making, engineering, printing, etc., have shown a marked tendency to seek better conditions outside the city. The silk industries of Crefeld and the heavy industries of Werne have done the same.




THE DECENTRALISATION OF THE TEXTILE INDUSTRY OF BERLIN

The studies that are being made of certain industries in the New York region are valuable in this connection. In the chemical industry it was found that the number of plants more than doubled and the number of employees nearly trebled between 1900 and 1922,[2] but the number of factories in the most densely populated areas dropped from seven to one in the same period.[3] The writer of the report on this industry (Dr. Newcomer) further says:

> The principal advantage of a factory location in the centre of a metropolitan area is proximity to labour supply and market. The disadvantages are: high rents, taxes, insurance and water rates, fire hazard, difficulties of waste disposal, and frequently the difficulty of obtaining a plot of land large enough for a plant at any cost. The transportation factor is complicated. The advantage of being close to a number of railroads and to water transportation, which usually attaches to a central location, is frequently offset in large measure by congestion of traffic, which makes trucking very slow, and by the difficulty of obtaining a railroad siding (p. 35).

The following further quotations are also worth noting:

> Congestion of traffic is such that some of the manufacturers on the west side of lower Manhattan state that one truck can deliver only two loads a day to the docks or freight terminals; while New Jersey manufacturers in favourable sites claim that one truck can deliver six loads a day (p. 36).
>
> A member of one large company with a number of factories situated near various small cities claims that their Manhattan factory costs them in interest on investment, taxes, and insurance ten times as much as similar plants in smaller places (p. 37).

[1] See "Die Industriestadt Berlin," in *Der Neubau*, August 1924. An extremely interesting and well-illustrated article.

[2] *The Chemical Industry in New York and its Environs* (1924), p. 14.

[3] *Ibid.* p. 20.

The trades in the chemical industry that remain in the centre of New York are those engaged in the manufacture of cosmetics and toilet preparations, and it appears that it is the wide margin of profit in those trades which causes them to stay there, though "it is probable that this profit margin will prove to be temporary rather than permanent." [1]

The writer of the report on the metal industry comes to very much the same conclusions. There are now only five iron foundries on Manhattan Island, whereas at one time there were sixty-five.[2] The manufacturers in the central areas who sold their product within the area were satisfied with their location, but those who had largely to put their goods on rail were almost invariably dissatisfied and expressed their desire to be where transportation facilities were better.[3]

In food manufacturing the large-scale mechanical industries not subject to seasonal fluctuations were moving to the outskirts. The number of employees in the industries showed an increase since 1920 which coincides with the increase in population. In 1917 there were 230 factories in the central areas employing twenty or more persons each, in 1922 the number was 181. In 1920 there were 39 employing 100 persons or more each, and in 1922 the number was the same, though in the rest of the area the number increased in that period from 37 to 85.

A manufacturer's view of the present state of the cities, and of the desirability of industrial decentralisation, is expressed by Mr. Henry Ford, to whom reference has already been made, and his remarks are worth quoting. He says:

> The belief that an industrial country has to concentrate its industries is not, in my opinion, well-founded. That is only a stage in industrial development. As we learn more about manufacturing, and learn to make articles with interchangeable parts, then those parts can be made under the best possible conditions. And these best possible conditions, as far as the employees are concerned, are also the best possible conditions from the manufacturing standpoint. One could not put a great plant on a little stream. One can put a small plant on a little stream, and the combination of little plants, each making a single part, will make the whole cheaper than a vast factory would. There are exceptions, as where casting has to be done. In such case, as at River Rouge, we want to combine the making of the metal and the casting of it, and also we want to use all of the waste power. This requires a large investment and a considerable force of men in one place. But such combinations are the exception rather than the rule, and there would not be enough of them seriously to interfere with the process of breaking down the concentration of industry.
>
> Industry will decentralise. There is no city that would be rebuilt as it is, were it destroyed—which fact is in itself a confession of our real estimate of our cities. The city had a place to fill, a work to do. Doubtless the country places would not have approximated their livableness had

[1] *Ibid.* p. 38.
[2] *The Metal Industry in New York and its Environs* (1924), p. 26.
[3] *Ibid.* p. 37.

it not been for the cities. By crowding together, men have learned some secrets. They would never have learned them alone in the country. Sanitation, lighting, social organisation—all these are products of men's experience in the city. But also every social ailment from which we to-day suffer originated and centres in the big cities. You will find the smaller communities living along in unison with the seasons, having neither extreme poverty nor wealth—none of the violent plagues of upheave and unrest which afflict our great populations. There is something about a city of a million people which is untamed and threatening. Thirty miles away, happy and contented villages read of the ravings of the city! A great city is really a helpless mass. Everything it uses is carried to it. Stop transport and the city stops. It lives off the shelves of the stores. The shelves produce nothing. The city cannot feed, clothe, warm, or house itself. City conditions of work and living are so artificial that instincts sometimes rebel against their unnaturalness.

And finally, the overhead expense of living or doing business in the great cities is becoming so large as to be unbearable. It places so great a tax upon life that there is no surplus over to live on. The politicians have found it easy to borrow money, and they have borrowed to the limit. Within the last decade the expense of running every city in the country has tremendously increased. A good part of that expense is for interest upon money borrowed; the money has gone either into non-productive brick, stone, and mortar, or into necessities of city life, such as water supplies and sewage systems at far above a reasonable cost. The cost of maintaining these works, the cost of keeping in order great masses of people and traffic, is greater than the advantages derived from community life. The modern city has been prodigal, it is to-day bankrupt, and to-morrow it will cease to be.[1]

## § 6

The need that is felt by industry to remove from central overcrowded areas to new sites indicates the need for the systematic provision of industrial sites under reasonably good conditions. At present no such provision exists, and in leaving the cities industries are often creating for themselves over again the future development of the evils from which they have escaped. Industries stay near the great cities because of the desire to be near sources of labour as well as to secure electric power, railway facilities and so forth. But the conduct of industry in suburbs or semi-rural districts is not really satisfactory, though it may sometimes be better than in the cities. It causes a jumble of houses and factories, and though in some instances it may effect considerable economies, it is not suitable for industry in general, and at the best it still causes much unnecessary movement of people and often of goods. The difficulty of finding suitable sites for factories is much greater than is generally imagined. The matter is referred to in a note in the report upon the metal industry in the New York region:

The complaints made in the course of the interviewing point clearly to the importance of intelligent advice regarding the choice of industrial sites. The limitations of the various sections are seldom if ever mentioned by the organisations which are working for the development of par-

[1] *My Life and Work*, pp. 191–3.

ticular portions of the area and are often discovered only when demonstrated by experience. Some of the manufacturers are bitter and resentful because they feel that they have been misled in selecting their locations. It would seem highly desirable from the point of view of the future of the New York area as a whole that each part of the area recognise its shortcomings as well as its advantages and restrict its efforts to recruit new plants to such enterprises as can operate there to best advantage.[1]

The choosing of wrong sites for industry not only creates difficulties for the particular industry from which it is not always possible to escape (for it is a big undertaking to move a factory from one place to another), but throws a burden upon the community at large. There are no means by which manufacturers who want to move their factories can get advice or assistance to enable them to choose the best sites except the publicity matter which is issued by enterprising cities to attract industries.

It is a national duty to provide the best conditions for industry, and the matter is too important to be left to chance. If suitable land for manufacturing purposes were made available in various places at a reasonable price, where industries could be grouped, and power, transport and other facilities were provided, a great improvement could be effected in the economy of production, the efficiency of industry and the health and content of the workers. That indeed could be accomplished by means of satellite towns in which industrial sites are part of the town-plan, and housing, recreation, education and the social amenities of life are provided. A system of satellite towns would offer a great variety of sites for industry and enable a wide choice to be given to manufacturers.

## §7

Industrial sites depend for their successful development upon proximity to raw materials, power, labour, and the market for their products. The causes of the concentration of industry in the coal and iron centres and in the great commercial cities no longer have the force that they once had, for power can now be got wherever a demand for it arises, and transport makes raw materials accessible almost everywhere and makes ready contact with markets. Where transport and power can be brought, there industry can be carried on. That is what makes the decentralisation of industry in satellite towns practicable as a general policy. Where industry is established, there population will come. One of the most acute writers on the growth of cities says:

[1] *The Metal Industry in New York and its Environs*, p. 37, n.

> Population follows the line of least resistance in its distribution, and will consequently be affected by changes in the methods of distribution. When the industrial organisation demands the presence of labourers in particular localities in order to increase its efficiency, labourers will be found there.[1]

A system which made possible the extension of electric power services concurrently with railways and highways would enable new centres of industry to be constructed in the large vacant spaces around London and other cities, and so further the redistribution of population.

## § 8

The advantages to manufacturers of satellite town development may be seen to some extent at Letchworth and Welwyn Garden City; but it would be a mistake to suppose that those advantages are fully exemplified in those two places in their present stages. That they have advantages already is certain; but it would not always be possible to state them in terms of money. Such benefits as low rates and rents, light, fresh air, good health for employees and so forth, have a definite cash value. Space for a well-planned factory and the benefits of a controlled industrial site have also a value that can be similarly stated. But the real value of garden city conditions will not be realised until the towns are much larger in population. That value will increase and become cumulative, and will be enjoyed by those manufacturers who are planning for the future and look far ahead. But it is probably true that the complete realisation of their industrial advantages depends upon the general adoption of a system of satellite town building, in which the interdependence of such towns and their industries is recognised.

[1] A. F. Weber, *The Growth of Cities* (New York, 1899), p. 157.

# CHAPTER VI

## CONCLUSION

But who can tell of the fullness and pleasure of life, who can number all our new cities—cities made by the loving hands of men for living men, cities men weep to enter, so fair they are, so gracious and so kind. . . .—H. G. WELLS, *In the Days of the Comet.*

### § 1

TO deal adequately with the subject we have had before us would mean a series of treatises rather than a single book, and in bringing this work to a close the writer is conscious that the final chapters contain merely the headings of the parts of the subject that must be considered. He must leave to other hands the study and investigation that are needed to do justice to the great and vital questions that are involved. To those who undertake that study will come the reward of throwing light upon the problems of town growth, which when seen may have far-reaching effects upon the modern world. These chapters are at least an indication of the complex nature of a highly technical subject that has hardly yet been given any attention from the point of view taken here.

### § 2

In this concluding chapter an attempt may be made to summarise the economic, social and other factors that have been considered in the foregoing pages.

The argument maintained in the book has been this, that the extension of cities should be provided for by planning new industrial and residential centres as satellite towns in the form of garden cities, keeping the agricultural land between the cities and the new towns for agricultural purposes, and maintaining woodlands and the banks of streams for recreation and the preservation of Nature, and retaining the old towns and villages in their present state. The sites of the new towns being selected in accordance with regional plans in connection with which the development of railways and the construction of arterial roads should

be considered; the increased land values arising from the growth of population on the new areas being secured for public purposes; a new central body being formed to supervise, finance and assist such towns.

The establishment of satellite towns is a process in the decentralisation of the great city. Many functions of the great cities have already become decentralised—shopping, education, recreation, administration of justice, police, public health, and amusements, among other things; and the improvement of cities that has been studied so much in America, for instance, is more and more being directed towards sectionalising the city and the encouragement of localised activities. No one can contemplate the great cities without being forced to the conclusion that they must in some way be split up. To "loosen out the town," says a recent writer, is one of our pressing needs. The satellite town carries the process of decentralisation further by the conception of distinct civic units physically separate from the city, but having social and economic relations with it.

That the satellite town should be in some relation of dependence upon a city is implied in its name. No attempt is made here to define too closely what that relation should be. The "satellite" might conceivably be within the city boundary, provided that sufficient land were preserved between the city and the new town to prevent physical absorption, or even contact. A city which had within its own area a wide belt of rural land could very properly, if conditions were suitable, establish a genuine satellite town in that area. But unless there is a physical distinction between the city and its satellite—in other words, a belt of rural land between them permanently maintained—it is but a misuse of terms to call the community a satellite town; for it is nothing but a suburb.

The distance at which the satellite town should be from its parent depends upon circumstances. The decentralisation of the city must be effective and not nominal; there must be a redistribution of industry and social and civic activities, so that the daily concentration of population upon the city centre is reduced. There must also be brought about a real contact with agriculture on the part of the population as a whole. For that reason satellite towns should not on the average be nearer to one another or to the parent city than five or six miles. It is hardly possible to make a more precise statement than that.

The satellite town should have its own social, commercial, industrial and residential centres. It should as far as possible be complete in itself.

But what the town actually contains will depend almost entirely on the site. It might possibly be entirely industrial—nothing but factories, if the site were suitable for nothing else. Or it might have no industries whatever, if the site were unsuitable for industries. An industrial area pure and simple (that is to say a factory town with no dwellings), or a dormitory town pure and simple (that is to say a place in which people slept and enjoyed recreation, travelling elsewhere to their work), might properly be regarded as a satellite town if it were planned as such, though it would not be ideally satisfactory. An industrial satellite area would require transport facilities from residential districts in the city itself or from other surrounding towns. A purely residential satellite town would require transport to industrial and business districts in the city or to other satellite towns. What each satellite town is will depend upon the site and upon circumstances.

## §3

The size of the town is an important matter, and there again no hard-and-fast rule can be laid down. It is sufficient to say that the town must be large enough to be a real town, perhaps not less than 30,000 people. On the other hand it must not be so large as to prevent it from remaining a single unit; a population of 100,000 being a possible maximum. It is in this direction that research is greatly needed. What is the best size for a town? That is a question which at present cannot be answered with any degree of certainty. The ancient cities had to be limited in size because they had to be defended against attack, and because of food supplies and other reasons. Plato, it may be remembered, discussed the question in the *Laws*, where he said that "every legislator ought to know so much arithmetic as to be able to tell what number is most likely to be useful to all cities" (Jowett, vol. v., p. 120). But to-day the matter is little understood. It is, indeed, very rarely discussed.[1] In a recent book dealing with real estate there is a chapter headed "How Large Should a City be?" Unfortunately no conclusive answer to the question is attempted; but the writers ask, "Is it desirable that there should be a limit to the growth of modern cities?" They point out

[1] One of the rare discussions is contained in a contribution to the *Journal* of the Statistical Society, by Mr. C. Ashmore Baker, entitled "Population and Costs in Relation to City Management." (Vol. LXXIV., Dec. 1910, pp. 73–79.) The figures in that paper show that there is a tendency to reach a minimum of expenditure per head in towns with a population of 90,000 or thereabouts.

many of the disadvantages of the large cities, they admit that there is no immediate sign of any arrest of their growth, and they say:

> Great cities offer few advantages that cannot be obtained in smaller communities, and much that must be endured in these large centres of population is actually detrimental to health, morals and comfort. The problem of directing population away from the large cities is one that has not been solved. It is apparent that serious study must be given to the subject before conditions become too grave to rectify.[1]

The significance of these words is that they are written by real-estate experts.

An interesting sidelight was thrown on the subject at a sitting of the Royal Commission on Local Government, from the minutes of which the following extract is taken:

> (*Sir George Macdonogh*). . . . You told us this morning that you had an inferior limit of population suitable for a county borough, namely, 50,000. May I ask if you have any superior limit? Would you think a county borough of a million was too big, or that two millions was too big?—(*Sir Robert Fox*). I have not thought of a limit, except that the other day I was thinking of what would be possible, and the conclusion I arrived at is, anything up to a million. I think the gradual increase of a town till its population comes to a million would leave it quite a convenient unit of administration.
>
> Over that you think it would be too large?—I am inclined to think so.—Questions 7544 and 7545.

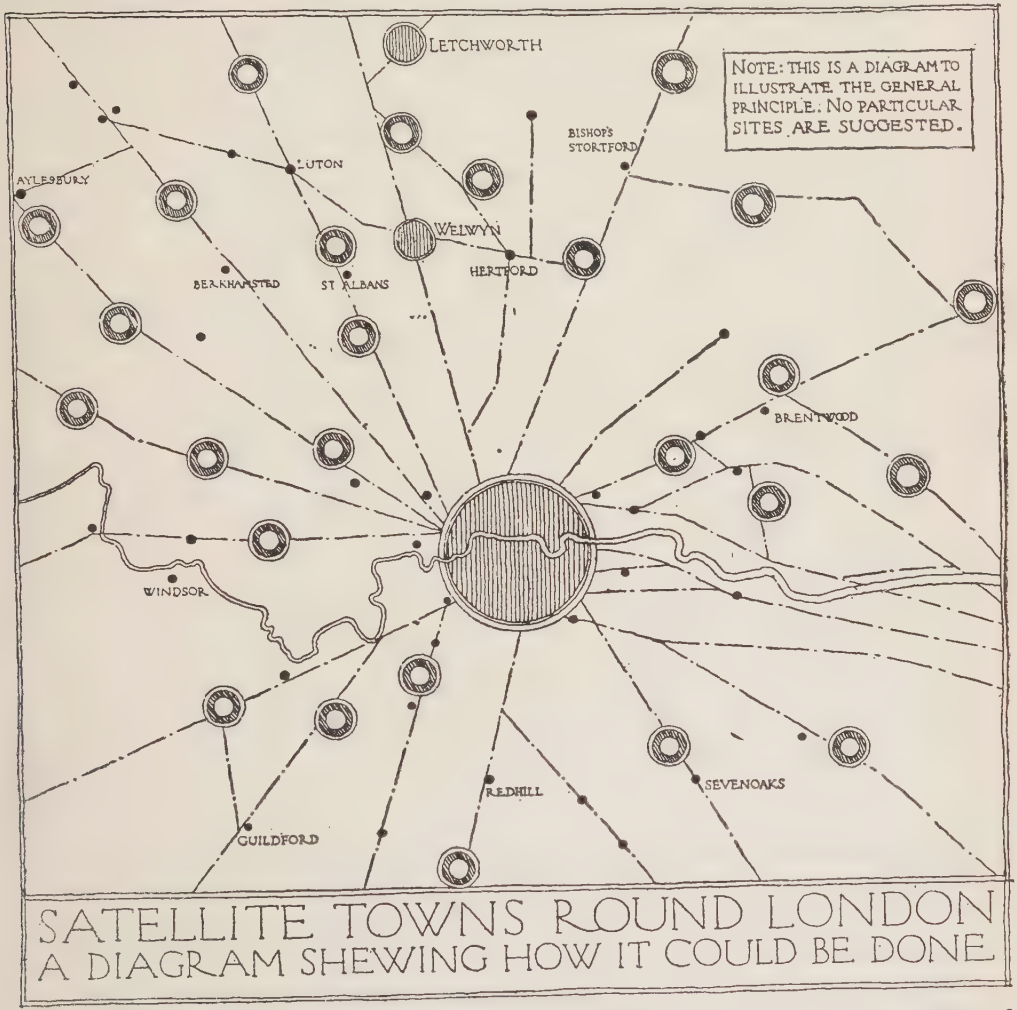
What emerges from the above is that there is certainly a limit of size beyond which towns should not be allowed to grow; but what that limit is no one has yet thought out. We know that our cities are too large and that our small towns are too small; but we do not know the best size. In certain of its aspects it is a subject which might very profitably engage the attention of economists.

There is this factor that has some bearing upon the question, that a system of satellite towns would be a co-operative system, in which towns could join together to provide themselves with educational, social, cultural and economic advantages that a single town could not enjoy. A group of satellite towns could combine for educational purposes, for instance, and by pooling their resources gain a much more efficient system of higher education than any one of them could secure by itself. Industrially, also, a group of towns could work together. Such a group could also support a number of theatrical companies, each with a centre in one town, but making regular visits to the sister towns.

[1] *City Growth and Values*. By S. L. McMichael and R. F. Bingham (Cleveland, Ohio, 1923), p. 343.

## §4

A definite illustration of satellite town development on a large scale is given in the map which the present writer prepared some years ago [1] (which has been reproduced in its original form a number of times and




has been re-drawn for this book). The map shows a whole series of satellite towns around London to provide for housing and residential, commercial and industrial development in the area. The plan is a

[1] *Garden Cities and Town-Planning*, May 1920, pp. 105–106.

diagram only, and no particular sites are intended to be suggested by it; but it indicates, what everyone familiar with the district must realise, that there is room within forty miles of London for an enormous population, which could be provided for without making London any larger and without disfiguring the country-side or destroying the old villages.

The Letchworth and Welwyn garden cities, which are shown in the diagram, are only thirteen miles apart, and it is worth noting that there is ample room for another garden city to be placed between them. The proper development of the area between the two towns would be to plan a new town of 30,000 inhabitants or thereabouts, for which there is an ideal site, and at the same time to check the present haphazard development of the country near the old small towns and villages in the district, which is at present going on to the future great detriment of the area. If that were done the rural character of this part of Hertfordshire, still one of the most charming pieces of country near London, would be preserved and accommodation would still be found for a very large population. No amount of town-planning in the local sense of the word can hold back the builder and preserve the natural beauties of Hertfordshire, Essex, Surrey, Kent, Buckinghamshire and Berkshire, and the few remaining vacant spaces of Middlesex. Town-planning as we know it to-day will not save London and the surrounding country; it will merely make the path of the builder and land speculator a little more difficult in one place and ease it for them in another.

## § 5

The two examples of satellite towns that have been described in this book are sufficiently advanced to show the essential practicability of the proposal as an alternative to the present state of the areas around all the great cities. It may fairly be maintained that garden city principles are in harmony with the economic needs of the time and that their adoption as a system of town development involves no revolutionary changes in industry or social institutions, in individual habits or architecture, but replaces chaos by order. There is no violent break with the past; for the small town is typical of English life. It is not intended that a uniform pattern of towns should be adopted, for the new towns should

be based upon local character and give scope to communities for civic expression.

We have to make up our minds whether the existing system of town building, the heritage of the early years of the industrial revolution, is to continue, subject to such modifications as can be made in it without altering its nature, or whether that system shall be abandoned in favour of intelligent land development controlled by a deliberate policy of town design. That means a definite check to the continued suburban extension of the great cities, a complete change in methods of land development, and an end to the exploitation of building land by individual builders and land speculators without relation to the permanent needs of the community. It means a policy of planning new towns, which we have called in this book satellite towns, to make new centres of activity, and create new channels into which the economic life of the nation can flow. Upon our decision in this matter hangs to a large extent our industrial future, the economy of city administration, the organisation of a sound traffic system, the housing of the population and the preservation of much of the natural beauty of our land.

## § 6

There is another point of view to be considered. The late Sir Ralph Neville said that the establishment of garden cities is "but the concrete embodiment of a view of the obligations and necessities of a civilised community which is gradually opening up before our moral apprehension." [1] That moral view of life still holds good and cannot be disregarded in public affairs. It means that we cannot leave the future to take care of itself. That there is a gradual economic tendency towards garden city conditions cannot be denied; but the dead weight of existing interests is against it, as it has always been against anything new, and only by considered effort under the impulse of a moral ideal will that tendency become a force capable of overcoming what is opposed to it.

The two garden cities that have been described may fairly be said to be among the notable features of England, striking examples of individual enterprise, and original and successful endeavours to provide good surroundings for factories and to improve the housing

[1] Warburton Lecture, 1904. *Papers and Addresses on Social Questions*, p. 1.

of the people. But so long as they remain isolated examples of what is undoubtedly a better form of town life they will reproach us for our inertia and indifference in allowing the development of our country to proceed as it is now doing. The opportunity is within our reach of entering on a new period of town-building, in which the divorce between agricultural and other industry may be healed, and the foundations may be laid of a new era of local and national prosperity. That opportunity should be seized.

# APPENDIX

## (A)

## FIRST GARDEN CITY LIMITED

DATE of registration, September 1, 1903.

The members of the board of directors of the company (with the years when they were appointed) are:

Henry B. Harris (1903) (Chairman).
A. A. Allen (1920).
Col. F. S. Bowring, C.B. (1904).
R. T. Edge, M.C. (1923).
Ebenezer Howard (1903).
C. E. Parker (1920).
William Piercy, C.B.E. (1924).
Lt.-Col. Franklin Thomasson (1903).

The following have also acted as directors: the late Mr. Justice Neville (chairman from 1903, resigned in 1906 upon his appointment as a Judge of the High Court); Lord Leverhulme (1903–1904); T. H. W. Idris (1903–1922); the late Earl Brassey (1903–1905); T. P. Ritzema (1903–1905); Edward Cadbury (1903–1919); R. A. Yerburgh (1905); R. R. Cory (1906–1908); E. T. Sturdy (1907–1917); L. R. King (1909–1922); the late Ralph Neville (1912–1923); Bolton Smart (1917–1921); John E. Champney (1907–1919, chairman from 1915 to 1919); the late H. D. Pearsall (1903–1919); the late Aneurin Williams (1903–1924, chairman from 1906 to 1915).

The organisation of the company was as follows: Meetings of the board were held fortnightly. Three committees dealt with the business: finance, building, engineering; the first committee met fortnightly, the others monthly. A consultative council of shareholders existed from 1910 until 1916, consisting of thirty shareholders elected at the annual meetings of the company, half of them being residents of Letchworth. The executive work was under the control of a managing agent, the departments

being: surveying, engineering, secretarial, accountancy, and works. In 1917 the organisation was reduced and the secretary became the chief executive officer.

Thomas Adams was secretary from 1903 to 1906, since that date Harold Craske has been secretary. The managing agent from 1906 was W. H. Gaunt, who left in 1917. A. W. E. Bullmore, M.Inst.C.E., has been engineer to the company from 1904. H. Burr, F.S.I., was surveyor from 1904 to 1919; the present surveyor is O. S. Pratt, D.S.O. Charles Gould has been electrical engineer from 1908. The solicitors to the company are Balderston, Warren and Co. The auditors are Peat, Marwick, Mitchell and Co. The company has a controlling interest in Letchworth Cottages and Buildings Limited.

## (B)

## WELWYN GARDEN CITY LIMITED

DATE of registration, April 29, 1920.

The members of the board of directors of the company (with the years when they were appointed) are:

Sir Theodore G. Chambers, K.B.E. (1920) (Chairman).
Basil Backhouse (1924).
Sir A. Kaye Butterworth (1923).
W. H. Close, M.C. (1922).
Herbert Collins (1924).
J. R. Farquharson (1920).
Lt.-Col. F. E. Fremantle, M.P. (1920).
Sir John Henry (1923).
Ebenezer Howard (1920).
C. B. Purdom (1920).
R. L. Reiss (1920).

The following have also acted as directors: Samuel Smethurst (1920); Sir John Mann, K.B.E. (1920–1923); Bolton Smart (1920–1923); Lord Lytton (1920–1923); the late Edward Backhouse (1921–1923); Sybil, Viscountess Rhondda (1920); Major the Hon. J. J. Astor, M.P. (1921–1925).

The civic directors appointed by the Welwyn Garden City Parish Council are: Mrs. A. M. Drover, L. T. M. Gray, H. E. Stevens.

Meetings of the board are held monthly. There is a general purposes committee consisting of six directors, which meets three times a month. The administration of the business is undertaken by the chairman (Sir Theodore G. Chambers) and the finance director (C. B. Purdom), who give their whole time to the work, in conjunction with the heads of departments. The departments and their heads are as follows: secretarial (F. J. Osborn); accountancy (C. W. Care); architectural (Louis de Soissons, F.R.I.B.A., S.A.D.G.); surveying (C. W. Brighten, F.S.I.); and engineering (W. E. James, A.M.Inst.C.E.). All the heads of departments have held their appointments since the establishment of the company with the exception of the present surveyor, who succeeded the late G. S. Herne in 1924. Mr. J. D. Haworth, M.S.E., has been the company's consulting engineer from the inception of the scheme, and has remained closely associated with it.

The solicitors to the company are Royds, Rawstorne and Co. and Grundy, Kershaw, Samson and Co. The auditors are Peat, Marwick, Mitchell and Co.

The following is a list of the subsidiary companies, etc. Each has its separate board of directors and management, but is under the same general administration:

Digswell Nurseries, Ltd.
Garden City Houses, Ltd.
Handside Houses, Ltd.
Sherrards Wood Properties, Ltd.
Welwyn Garden City Electricity Supply Company, Ltd.
Welwyn Brickworks, Ltd.
Welwyn Builders, Ltd.
Welwyn Public Utility Society, Ltd.
Welwyn Transport, Ltd.

The company has also a controlling interest in:

Welwyn Restaurants, Ltd.
Welwyn Stores, Ltd.

## (C)

## THE HEALTH OF SCHOOL CHILDREN AT LETCHWORTH

A STRIKING commentary on the influence of garden city conditions upon health is afforded by the results of a special enquiry made by the Medical Officer of Health for Hertfordshire into the physical condition of school children in Letchworth and Hitchin respectively in 1920. The results were published in the Report of the Chief Medical Officer to the Board of Education for 1919. The population of the two towns at that date was approximately the same (namely 10,000), they are about three miles apart. Hitchin is an old urban district with an engineering factory, tan-yard and a number of smaller works. The following extracts are taken from the report:

To secure accuracy with regard to the effect of environment upon the physical standard of the school children only those who were born in Letchworth and in Hitchin were selected for the purposes of the enquiry. A total number of 485 children were examined: 249 boys and 236 girls. Of these 242 were examined in Letchworth and 243 in Hitchin. At the outset an effort was made to restrict children to the age groups 1908 and 1912, but it was found impossible to obtain sufficient children for the purposes of this enquiry belonging to those groups; the various age groups to which the children belonged in the two districts were as follows:

| | | | |
|---|---|---|---|
| Born in 1907 | Hitchin | Boys and Girls | 17 |
| „ | Letchworth | „ | 18 |
| Born in 1908 | Hitchin | „ | 46 |
| „ | Letchworth | „ | 41 |
| Born in 1909 | Hitchin | „ | 44 |
| „ | Letchworth | „ | 45 |
| Born in 1910 | Hitchin | „ | 27 |
| „ | Letchworth | „ | 29 |
| Born in 1911 | Hitchin | „ | 38 |
| „ | Letchworth | „ | 38 |
| Born in 1912 | Hitchin | „ | 71 |
| „ | Letchworth | „ | 71 |

In carrying out the enquiry I was assisted by Dr. Norman Macfadyen, the Assistant School Medical Officer for the Letchworth urban, Hitchin urban, and Hitchin rural districts. The result of the enquiry shows that the general physical condition and freedom from defects and minor ailments reached a higher level in the Letchworth children than in the Hitchin children.

CLOTHING AND FOOTGEAR. The result of the examination of the Letchworth boys and girls shows a figure slightly above the normal, namely 3·01, while for the Hitchin boys and girls the figure was 2·83; that is to say, that in 20·97 per cent. of the Hitchin children the clothing and footgear was below the standard which was regarded as normal, while in the Letchworth children every child examined either reached or passed the normal.

The average height of the Letchworth children was 132·54 cms. (52·1 ins.) compared with 131·29 cms. (51·7 ins.) for the Hitchin children, while the weight for the Letchworth children was 27·78 kgs. (61·2 lbs.) compared with 26·38 kgs. (58·1 lbs.) for the Hitchin children. These

figures show that generally the physique of the Letchworth children was superior to that of the Hitchin children.

Cleanliness. With regard to the question of cleanliness the difference between the children in Letchworth and Hitchin was very marked. It may be stated, however, that in Hitchin there is an insanitary area inhabited by about 1000 people, and from this area a considerable number of the children examined came. With regard to cleanliness of the head, Letchworth showed a percentage of 14·46 unclean, while in the case of the Hitchin children the percentage was 29·62, a very marked difference. A somewhat similar difference is shown with regard to body cleanliness: in the Letchworth children the percentage of uncleanliness of the body being 12·34 compared with 26·74 in respect of the Hitchin children.

Teeth. The percentage of children with defective teeth was 63·22 in Letchworth compared with 76·54 in Hitchin. It should be stated, however, that in Letchworth there has been a voluntary dental clinic for some years, so that the children in this district have had facilities for dental treatment not enjoyed by the Hitchin children. Medical inspection during the year 1919 showed that Letchworth was one of the two districts in the county with the highest percentage of perfect teeth amongst the children examined.

Tonsils and Adenoids. With regard to the nose and throat, any slight unilateral or bilateral enlargement of the tonsils was regarded as under the normal figure "3," while under the heading "Adenoids" was included any evidence of post nasal growth or nasal obstruction. The figures for these combined conditions showed that in the Letchworth children 26·41 per cent. suffered from one or other of the conditions, while the percentage for Hitchin was 30·24. The Letchworth children showed a slightly higher percentage with enlarged submax and cervical glands, the figures being 4·54 compared with 4·52 for the Hitchin children. The Letchworth children also showed a higher percentage with external eye disease, the figures being 4·54 compared with 1·23 for the Hitchin children.

Vision, Hearing and Speech. The percentage of the Letchworth children with serious defective vision was 3·71 compared with 7·81 for the Hitchin children.

The percentage of children suffering from ear disease was higher in Letchworth than in the Hitchin children, namely 3·71 as compared with 1·23.

There was little difference in the percentage of children with defective hearing, the figures being 3·71 for Letchworth and 3·70 for Hitchin.

With regard to defective speech, ·83 per cent. of the Letchworth children were defective as compared with 1·64 per cent. of the Hitchin children.

Mental Condition. Of the total number of children examined no case of mental deficiency was detected, but the children naturally varied considerably with regard to their mental standard. From information obtained from the teachers the conclusion was arrived at that in 10·74 per cent. of the Letchworth children the mental attainments were poor, while amongst the Hitchin children the percentage was 30·86.

Heart. In the examination of the heart, special attention was paid to the presence of valvular disease, disordered action and displacement of the apex beat. Deviation from the normal was found in 5·78 per cent. of the Letchworth children compared with 6·17 per cent. of the Hitchin children.

Lungs and Tuberculosis. The chest was carefully examined for evidence of tuberculosis or other disease of the lungs. A number of the children presented certain alterations in the character of the breath sounds which suggested a pathological basis, while in a certain number of children evidence of a catarrhal condition existed. In 6·61 per cent. of the Letchworth children the condition of the lungs was regarded as below normal, and a somewhat similar percentage was recorded for the Hitchin children, namely 6·15. . . . The percentage of stigmata found in the Letchworth children was 9·50 compared with 7·40 for the Hitchin children. It is interesting to note that the percentage of stigmata found is higher in Letchworth children than in the Hitchin

children, as the opposite might very well have been expected, having regard to the conditions under which the children live. It should be stated that a very considerable amount of imported tuberculosis is to be found in Letchworth, as many tuberculosis patients are recommended to remove from London and other large and populous districts to live in Letchworth for the sake of their health. Relative to this there is also the significant fact that the death rate from non-pulmonary tuberculosis in Letchworth was higher than the death rate from pulmonary tuberculosis during the year 1919.

Rickets. With regard to other defects it was found that rickets and spinal deformities gave a higher percentage amongst the Letchworth children than in the Hitchin children. Other diseases and defects have a percentage of 1·37 for the Letchworth children as compared with 3·70 for the Hitchin children. . . .

Chest Measurement. The measurement of the chest on full expansion was taken in the case of all the children, and it is interesting to note that the full expansion for the Hitchin children was 26·04 inches compared with 25·68 inches for the Letchworth children. It should be stated, however, that amongst the Hitchin children examined were a considerable number of boy scouts, who showed considerable aptitude in expanding their chests to the fullest dimensions.

Conclusion. The conclusions to be drawn from the enquiry are that the general health, cleanliness and mentality of the Letchworth children were on a higher level than those of the Hitchin children. The beneficial effect of physical training was indicated by the appearance and carriage of the boy scouts, who were almost without exception well developed, of good colour, had an alert carriage and an excellent chest development and expansion. . . .

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